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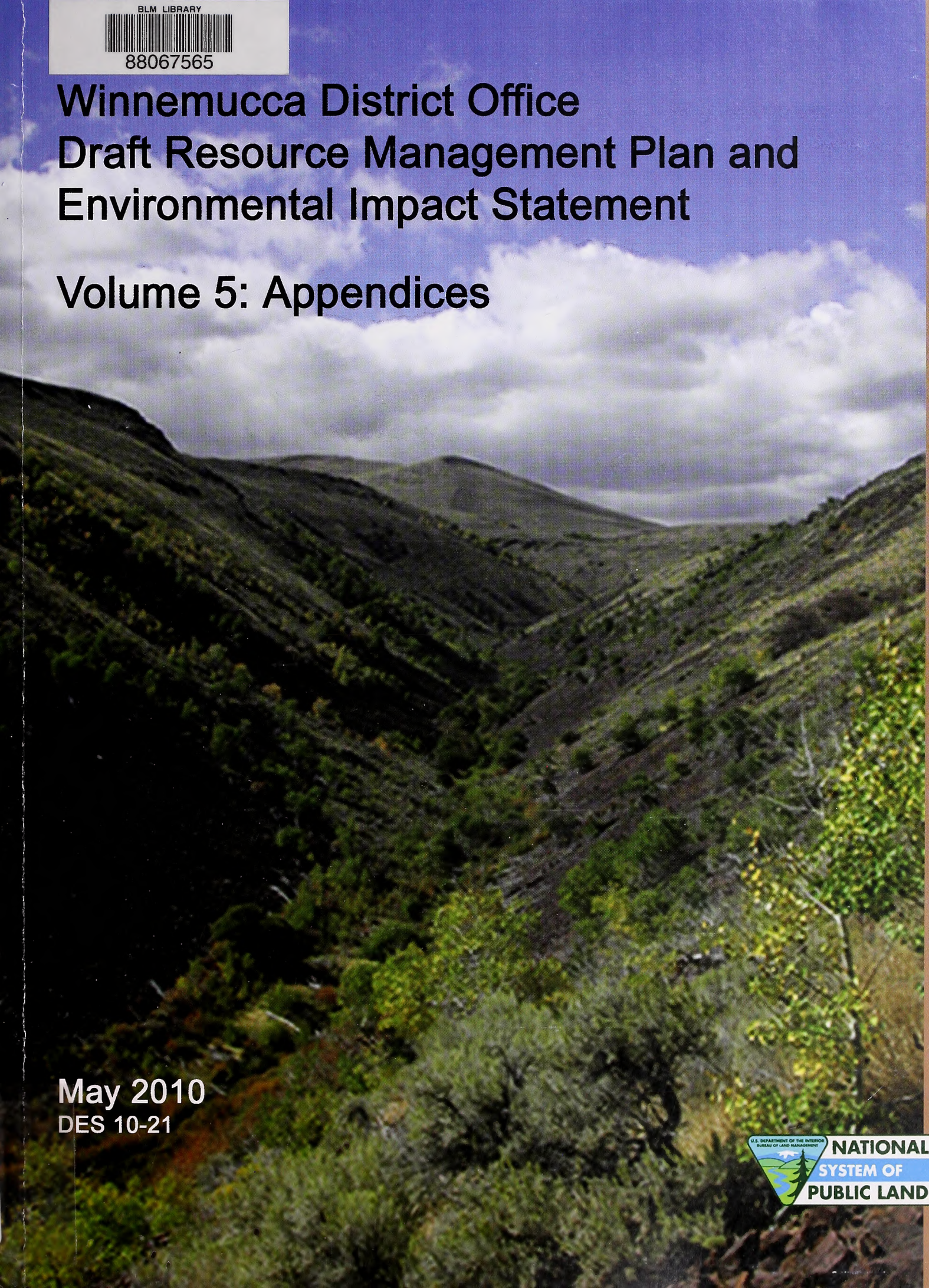
Winnemucca District Office Draft Resource Management Plan and Environmental Impact Statement

Volume 5: Appendices



May 2010
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WINNEMUCCA DISTRICT OFFICE / NEVADA

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT
NATIONAL SYSTEM OF PUBLIC LANDS

MISSION STATEMENT

To sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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VOLUME 5: APPENDICES

APPENDICES

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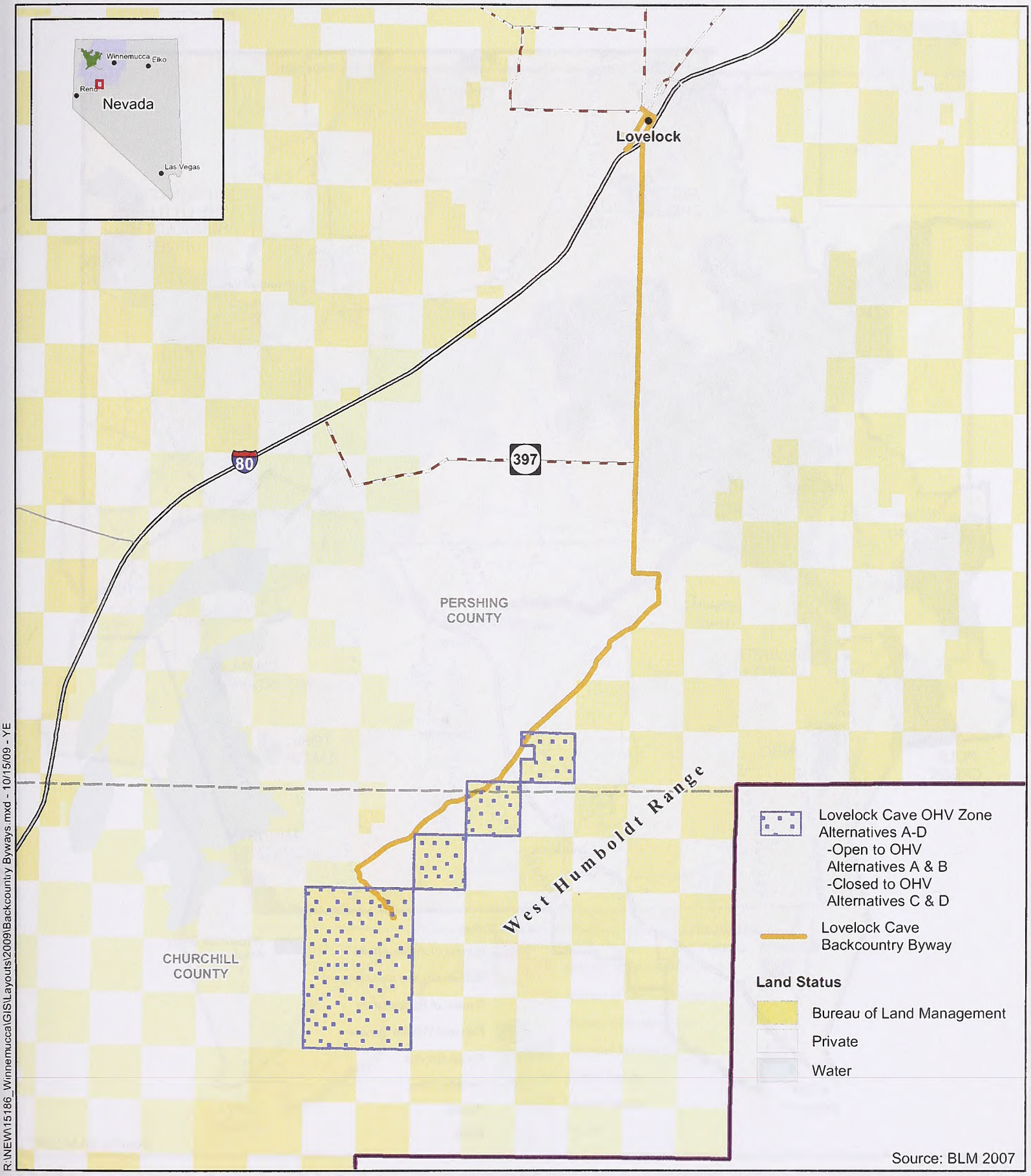

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N W E S

0 1.5 3 Miles

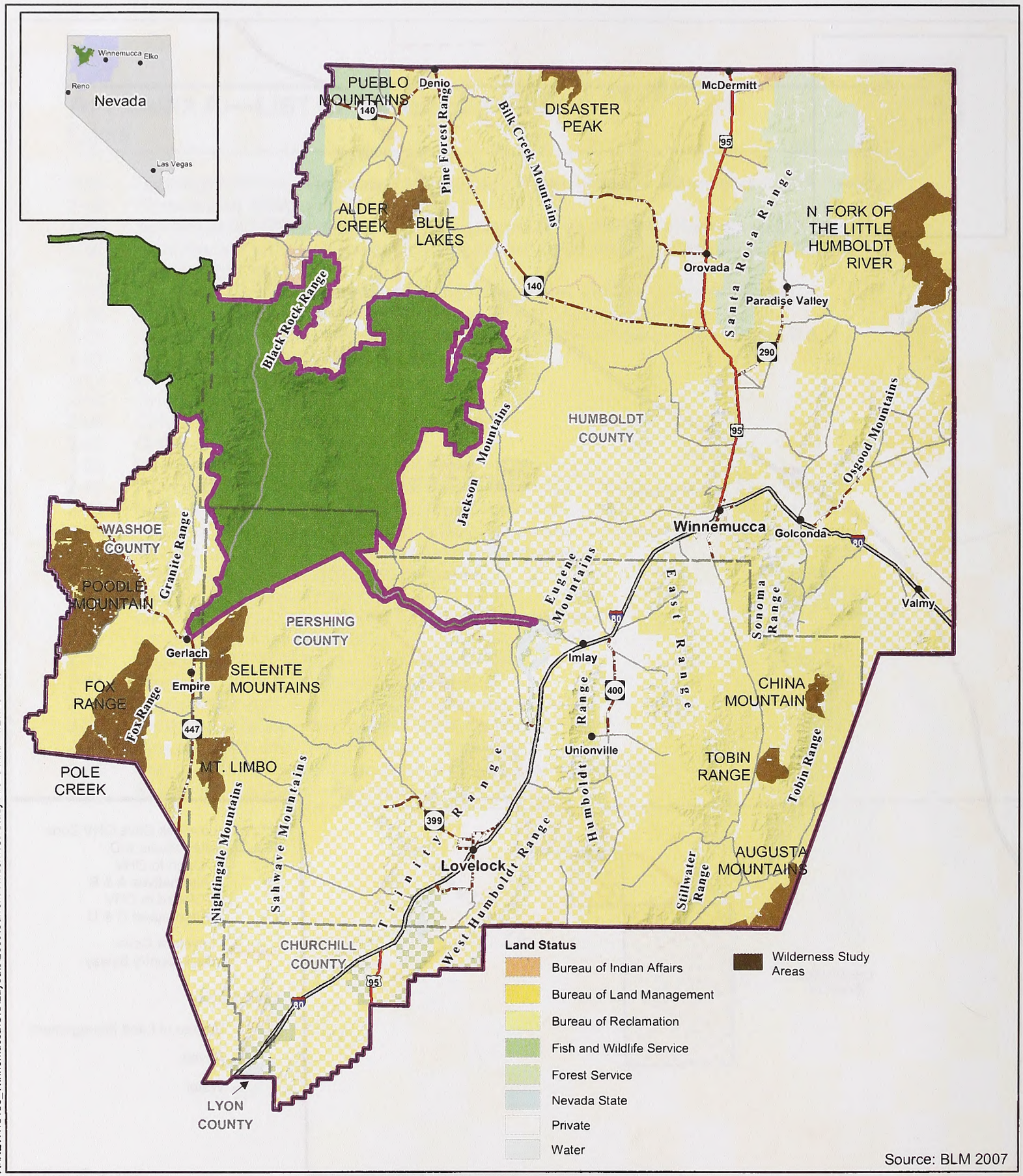
Legend

- Towns
- U.S. Interstate
- County Road
- State Highway
- County Boundaries
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary

Winnemucca District Office RMP Lovelock Cave Backcountry Byway - Alternatives A-D

Northwest Nevada

Figure 2-1



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Winnemucca District Office RMP Wilderness Study Areas - Alternatives A-D

Northwest Nevada

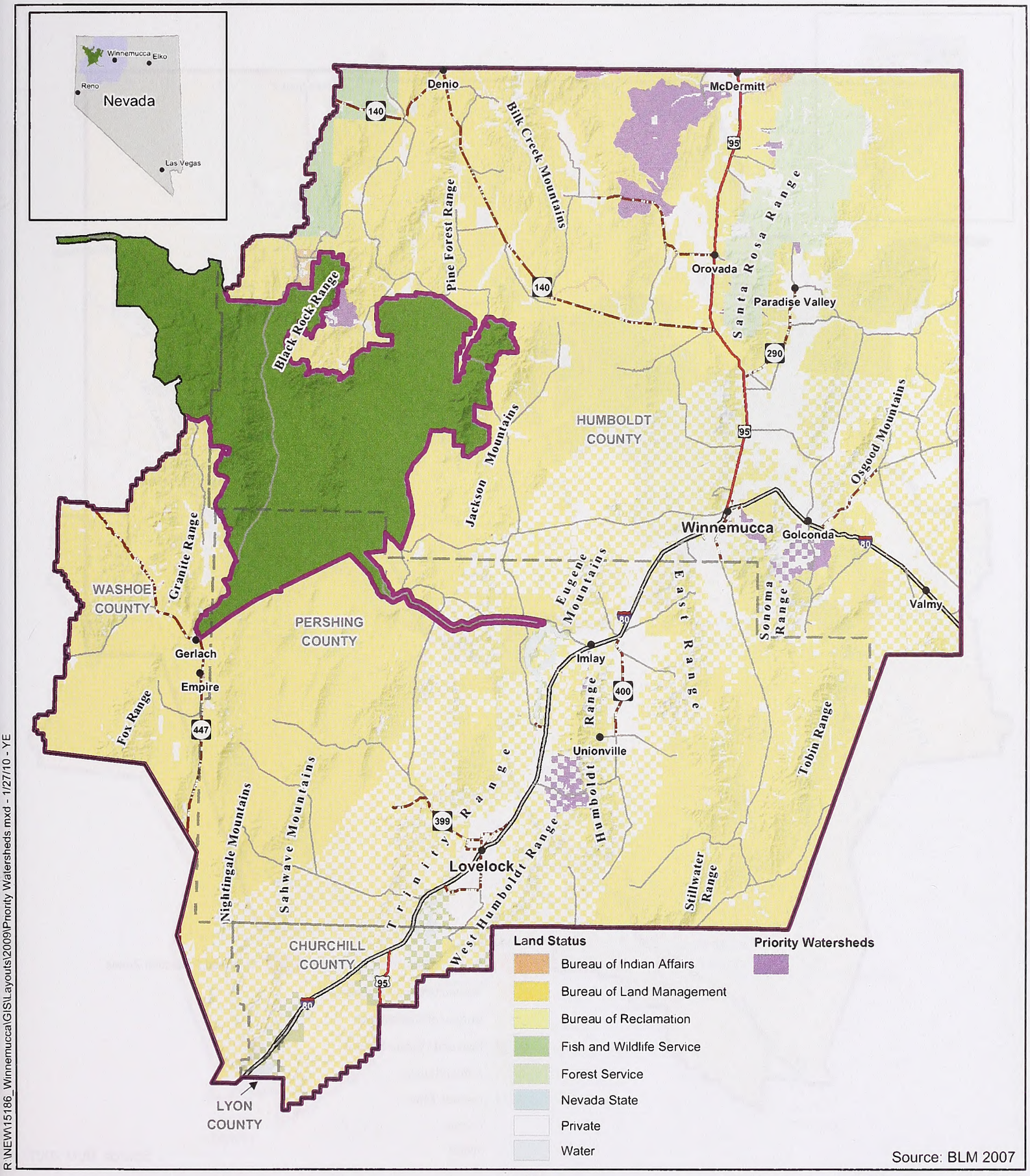
Figure 2-2

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

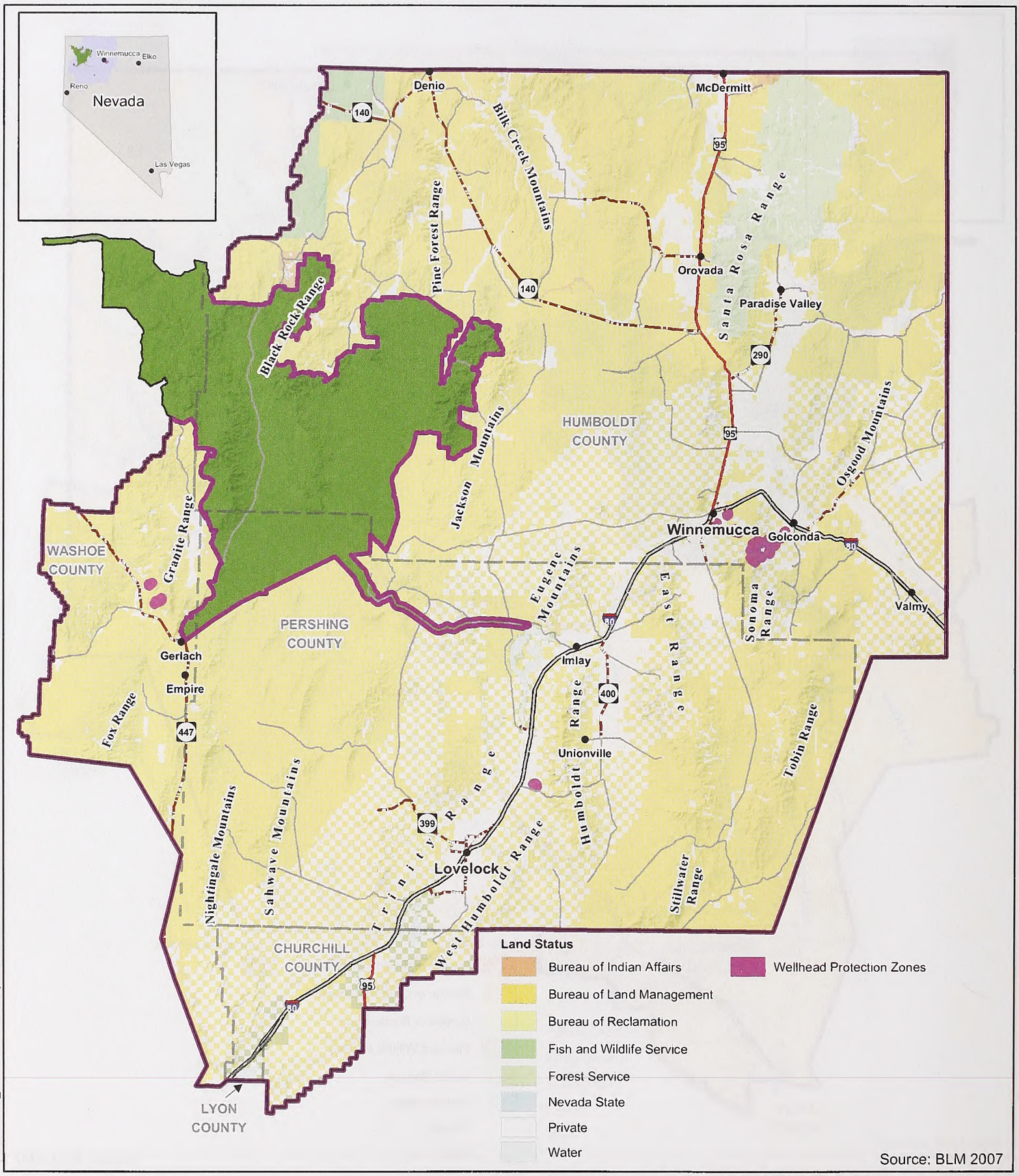
N W E S

0 10 20 Miles

Winnemucca District Office RMP Priority Watersheds - Alternatives B-D

Northwest Nevada

Figure 2-3



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Legend

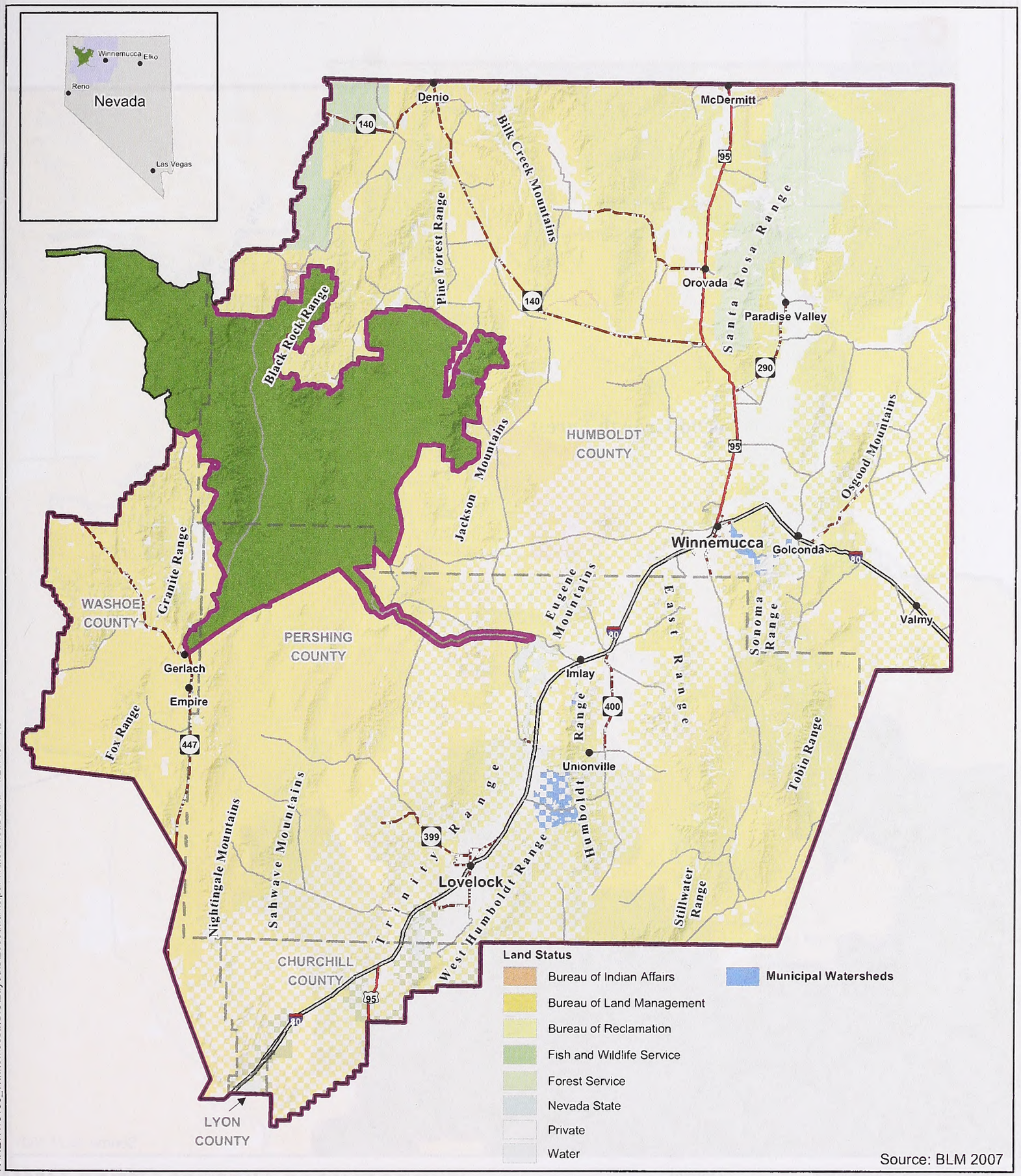
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Wellhead Protection Zones - Alternatives B-D

Northwest Nevada

Figure 2-4



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Legend

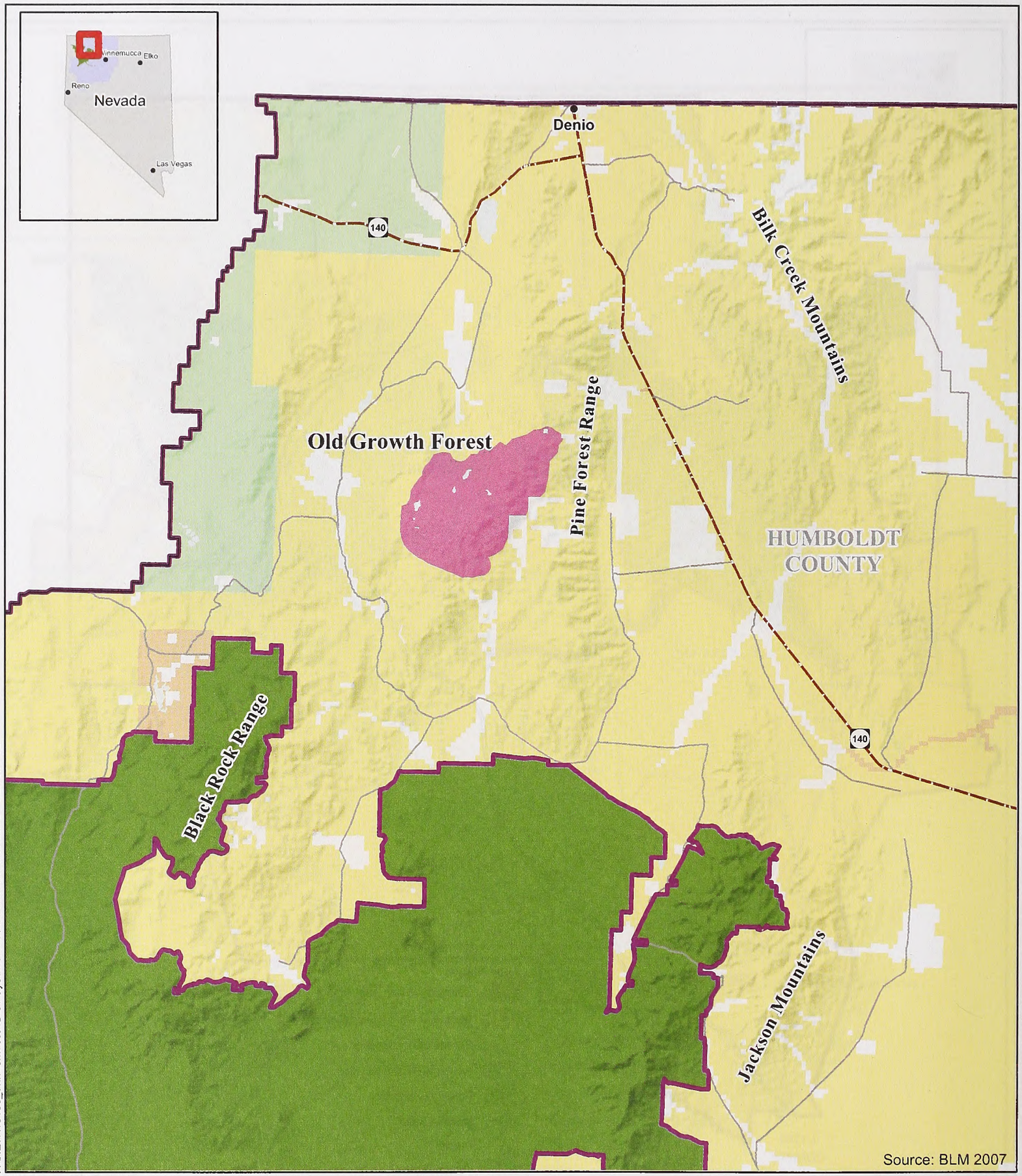
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Municipal Water Supply Systems - Alternatives B-D

Northwest Nevada

Figure 2-5



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area

Land Status

- Bureau of Indian Affairs
- Bureau of Land Management
- Fish and Wildlife Service
- Private
- Old Growth Forest
- Towns
- County Road
- State Highway

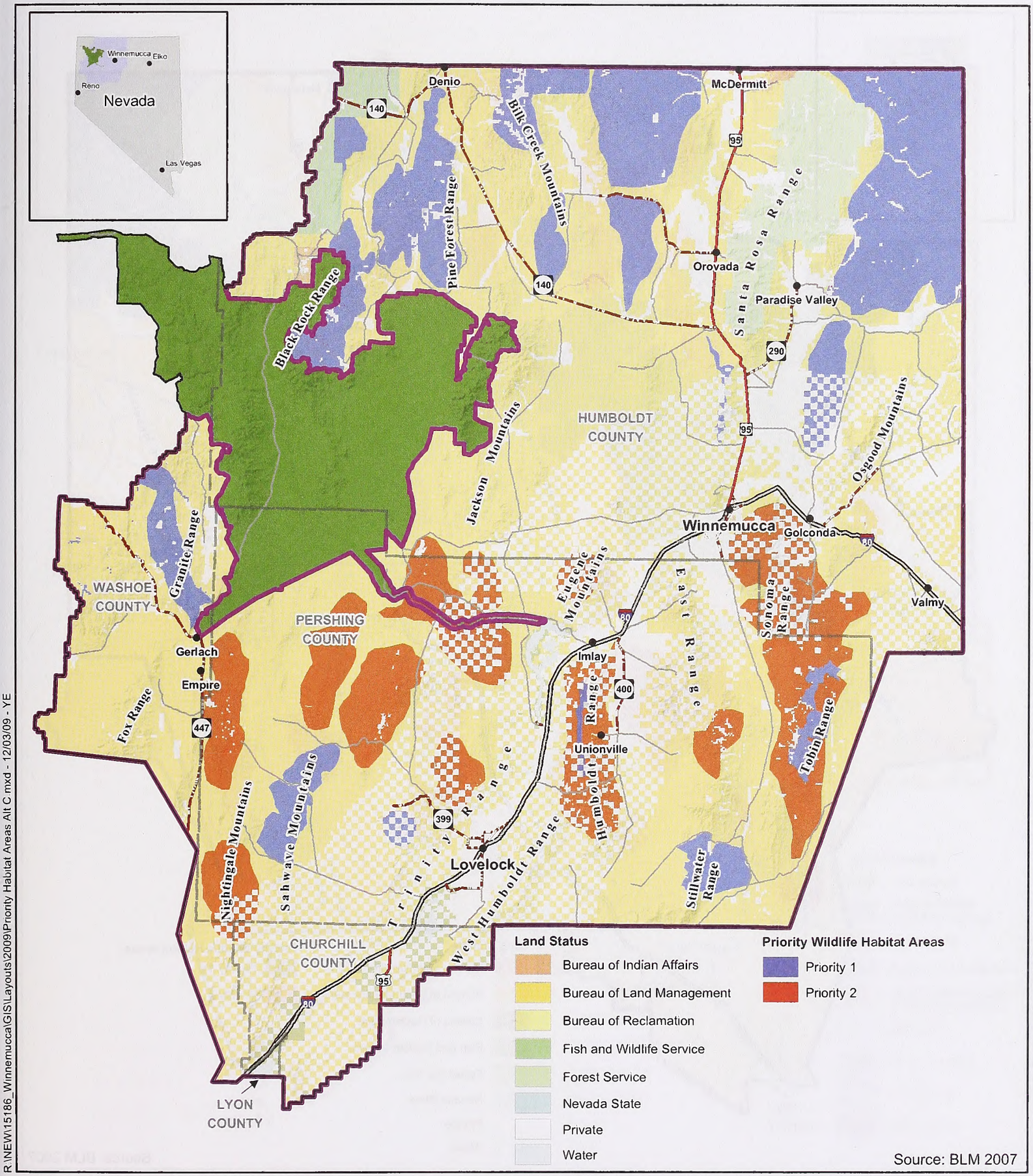
N W E S

0 4 8 Miles

Winnemucca District Office RMP Old Growth Forest - Alternatives C (Options 1 and 2) & D

Northwest Nevada

Figure 2-6



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Winnemucca District Office RMP
Priority Wildlife Habitat Areas - Alternative C (Options 1 and 2)

Northwest Nevada

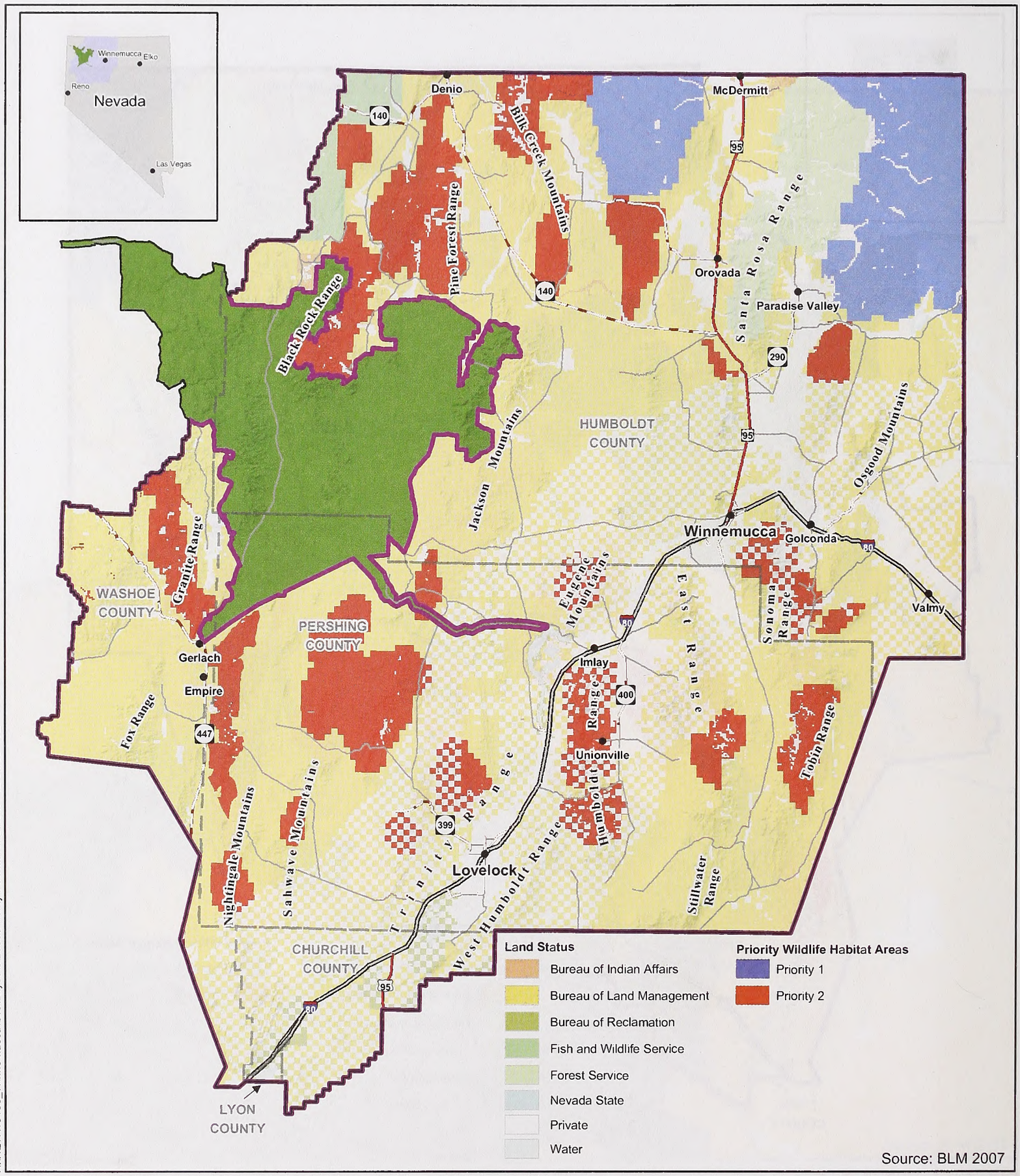
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-7



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Winnemucca District Office RMP Priority Wildlife Habitat Areas - Alternative D

Northwest Nevada

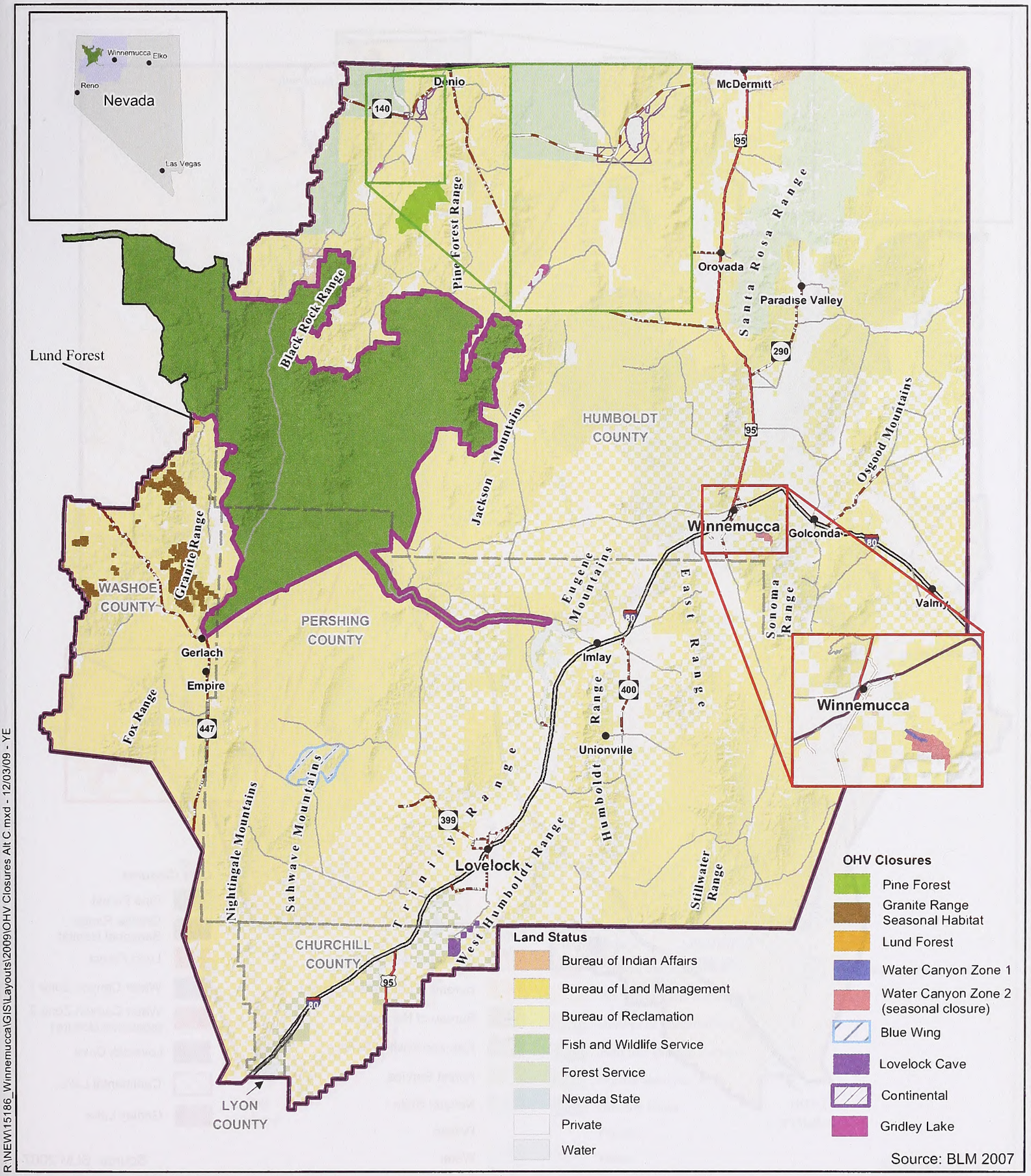
Figure 2-8

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

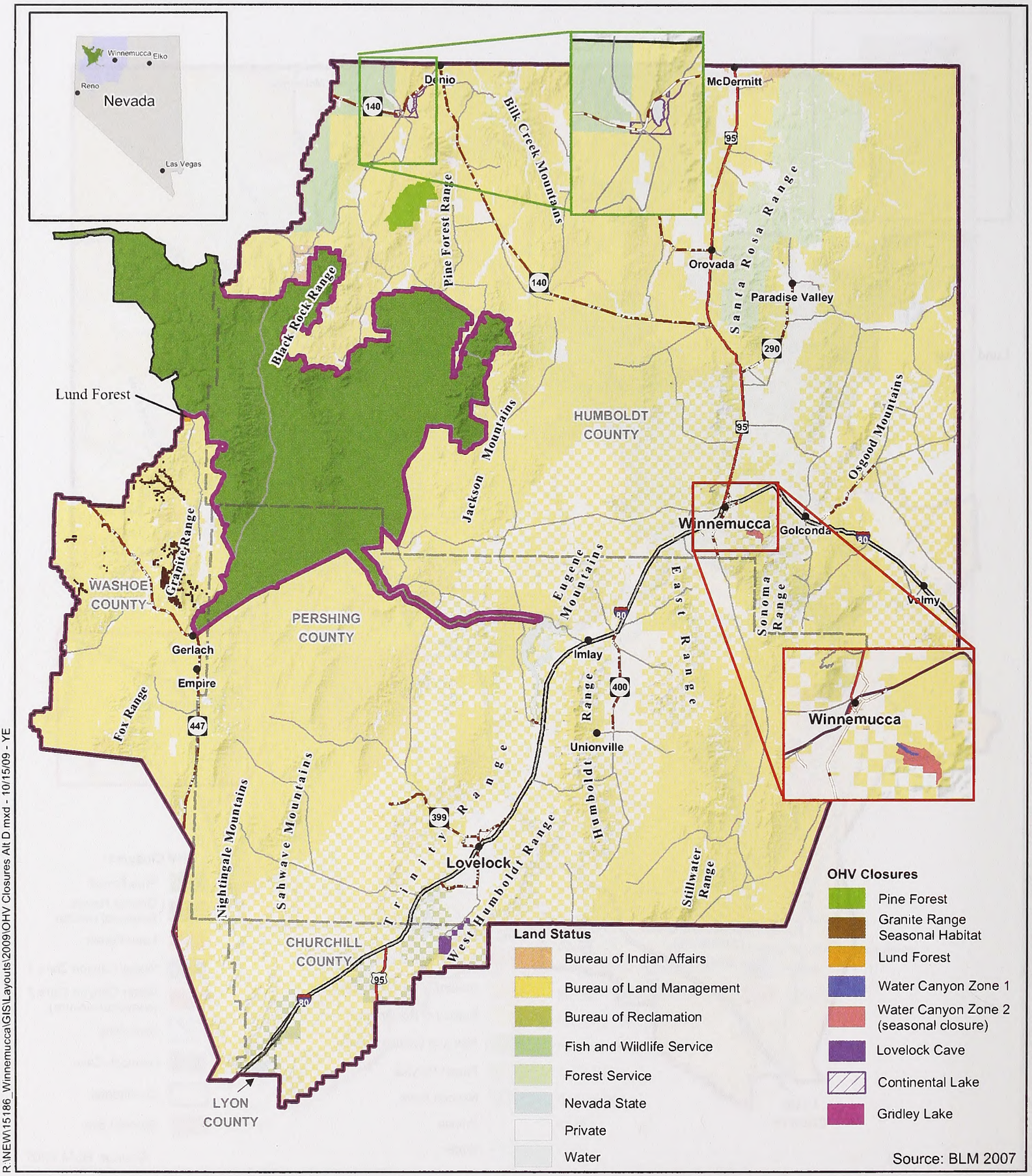
N W E S

0 10 20 Miles

Winnemucca District Office RMP OHV Closures - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-9



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

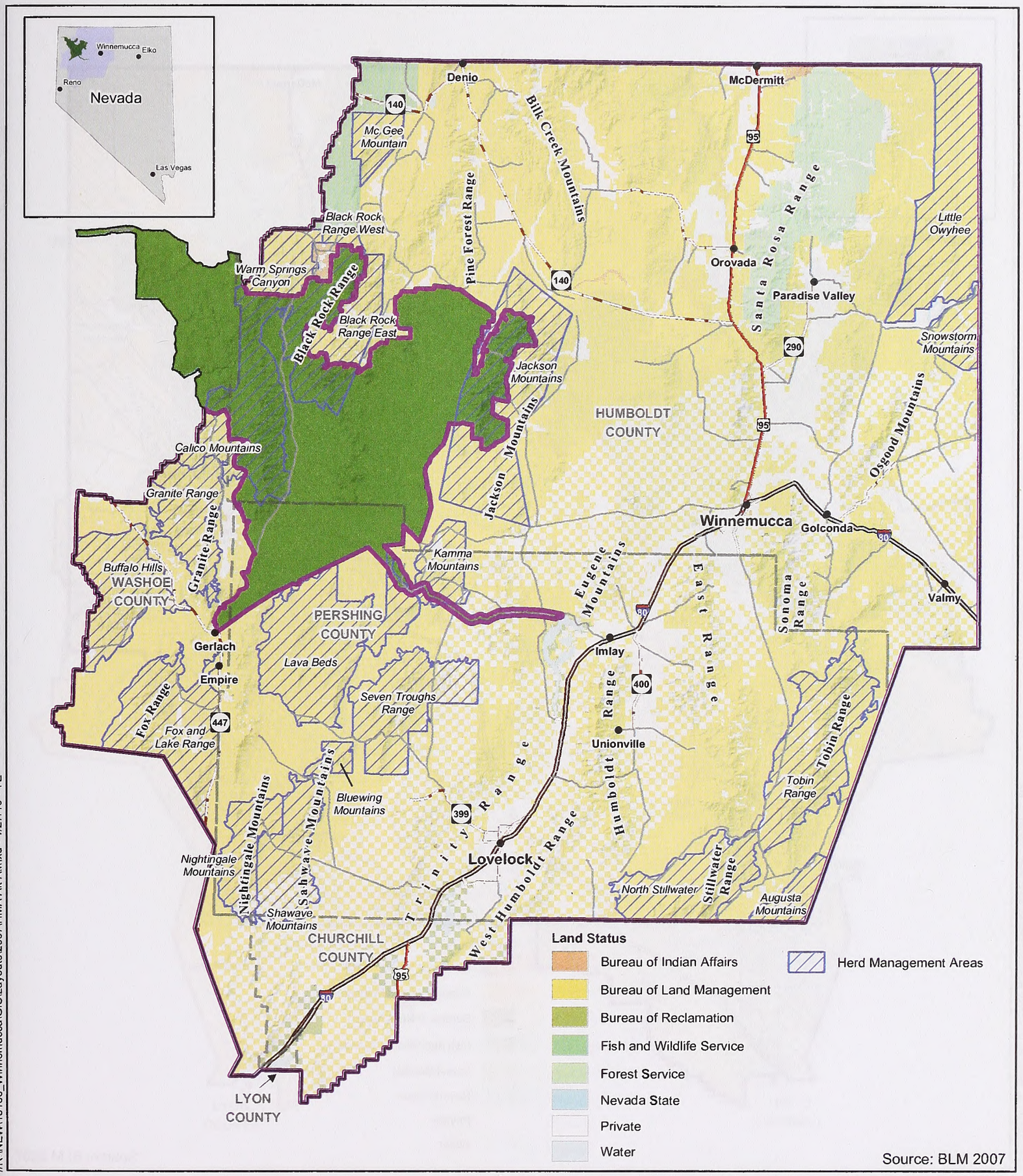
N W E S

0 10 20 Miles

Winnemucca District Office RMP OHV Closures - Alternative D

Northwest Nevada

Figure 2-10



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Winnemucca District Office RMP Herd Management Areas - Alternative A

Northwest Nevada

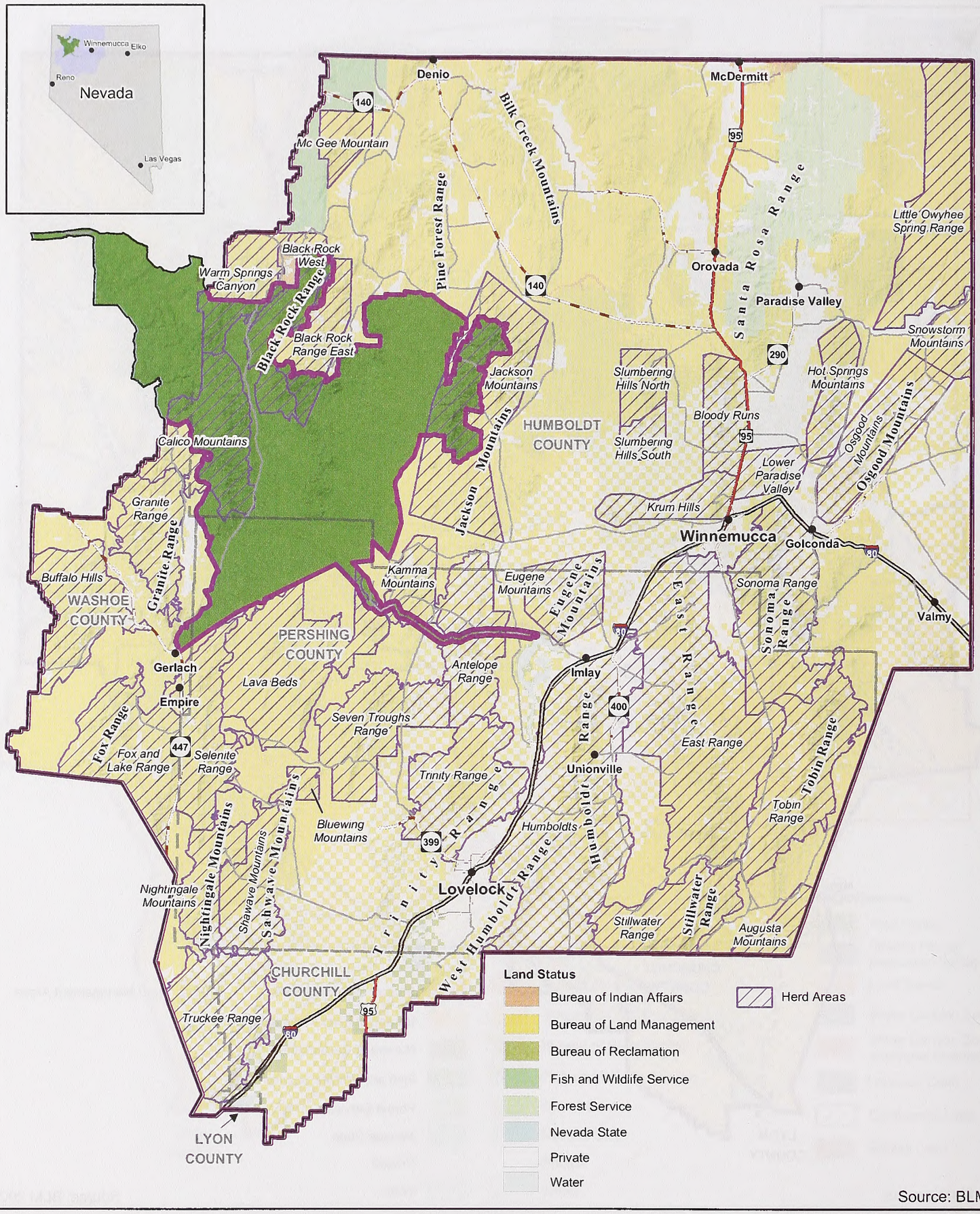
Figure 2-11

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



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Legend

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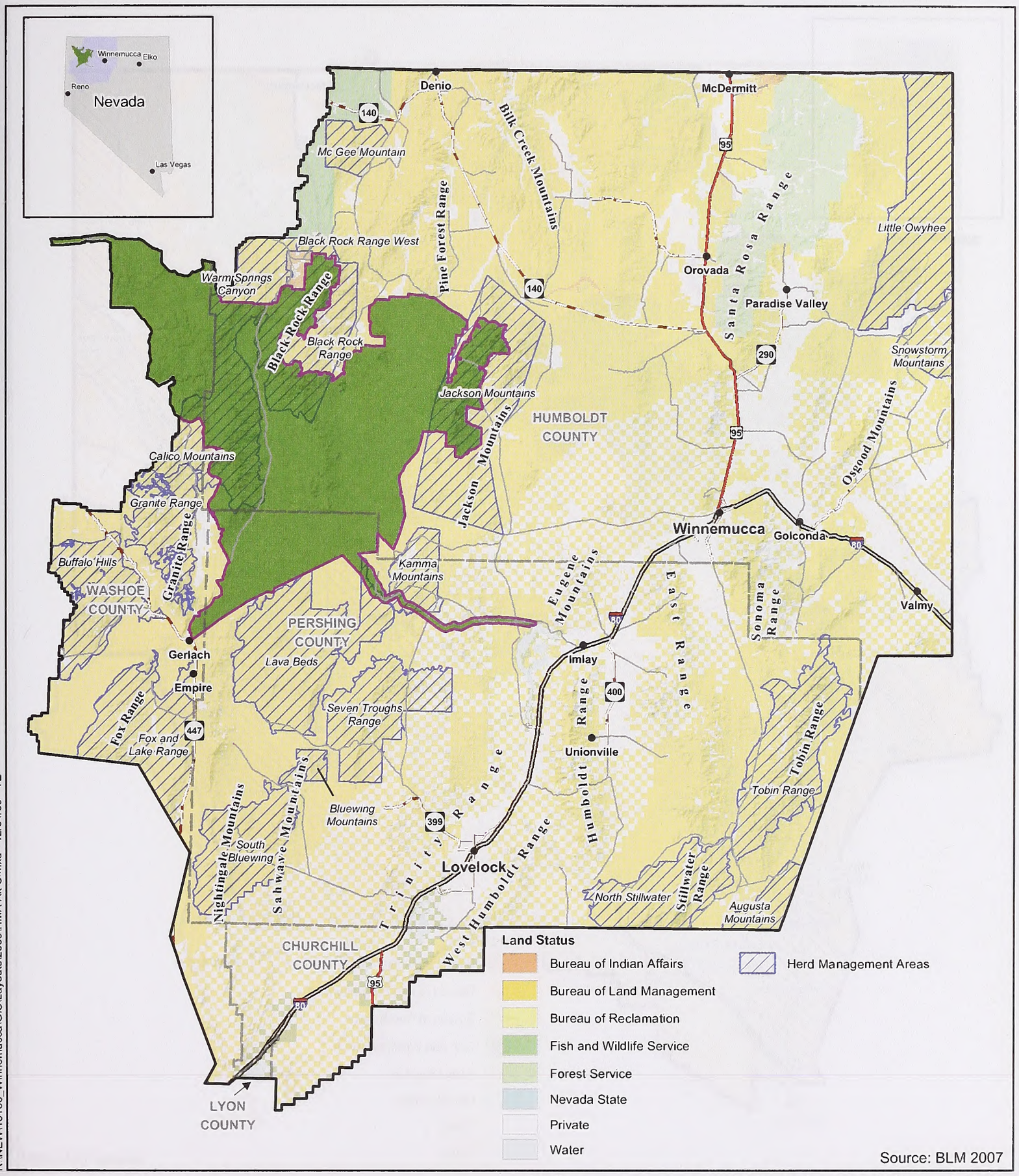
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Herd Areas - Alternative A

Northwest Nevada

Figure 2-12



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Legend

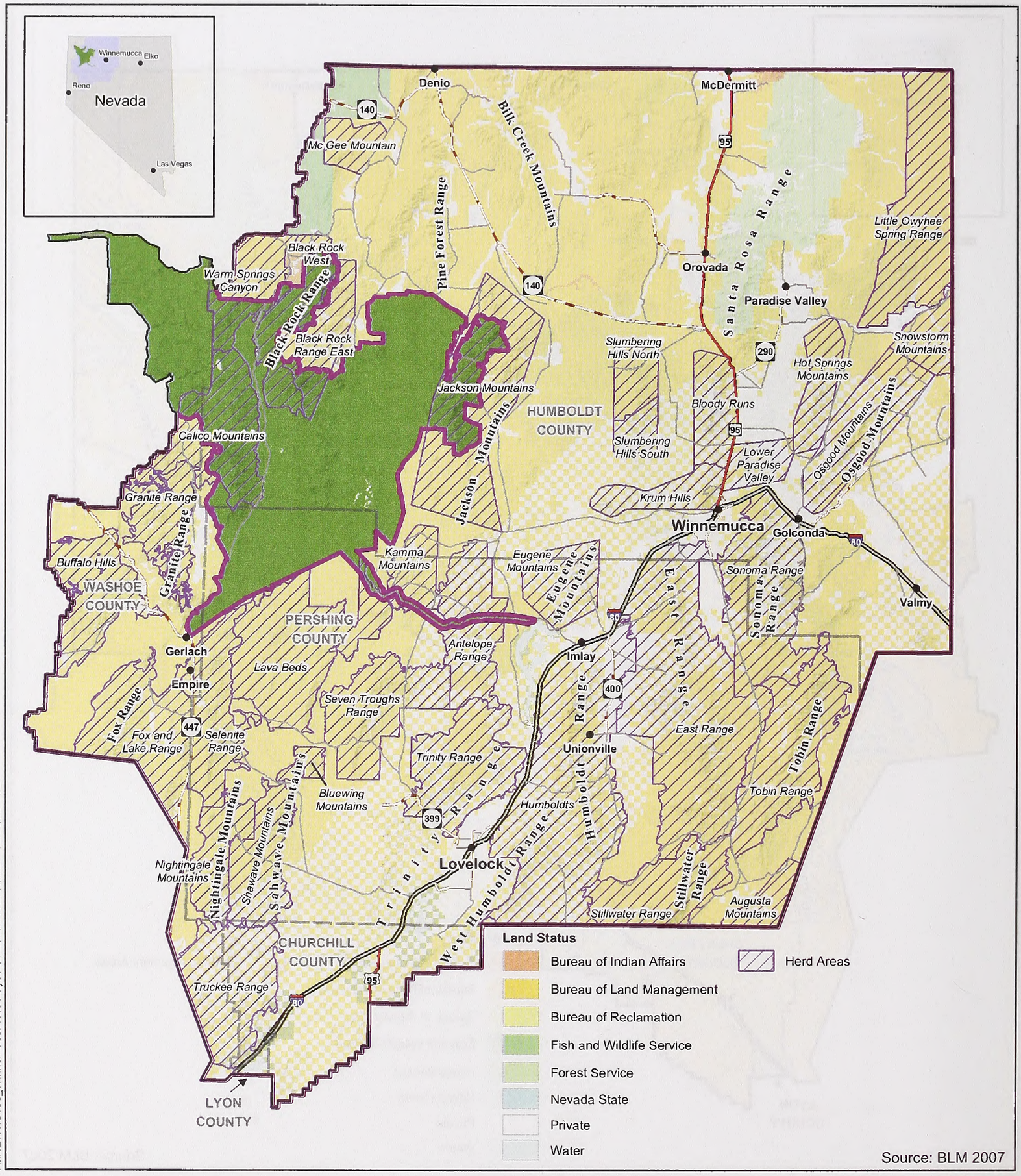
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Herd Management Areas - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-13



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Legend

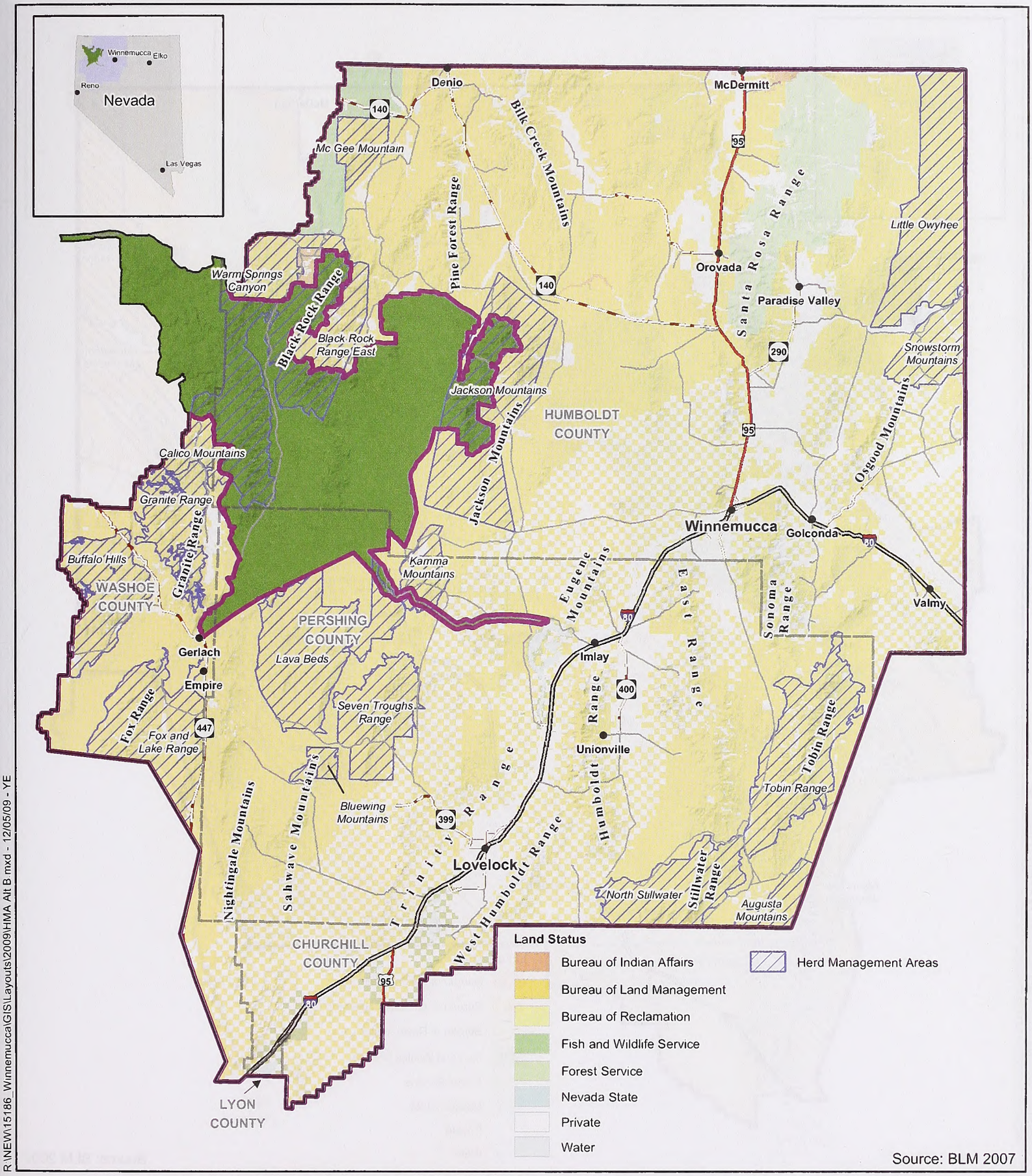
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Herd Areas - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-14



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

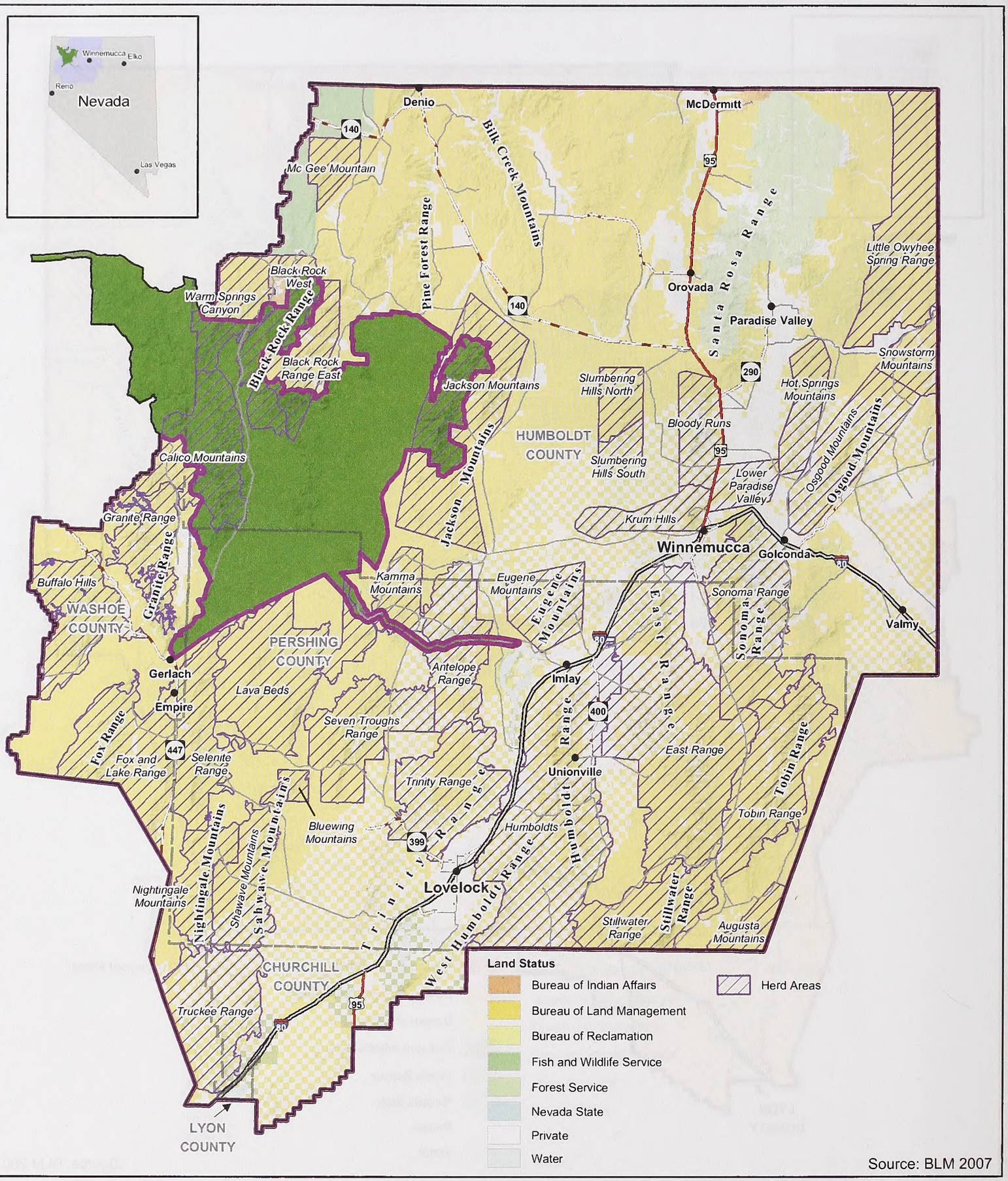
N W E S

0 10 20 Miles

Winnemucca District Office RMP Herd Management Areas - Alternative B

Northwest Nevada

Figure 2-15



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Legend

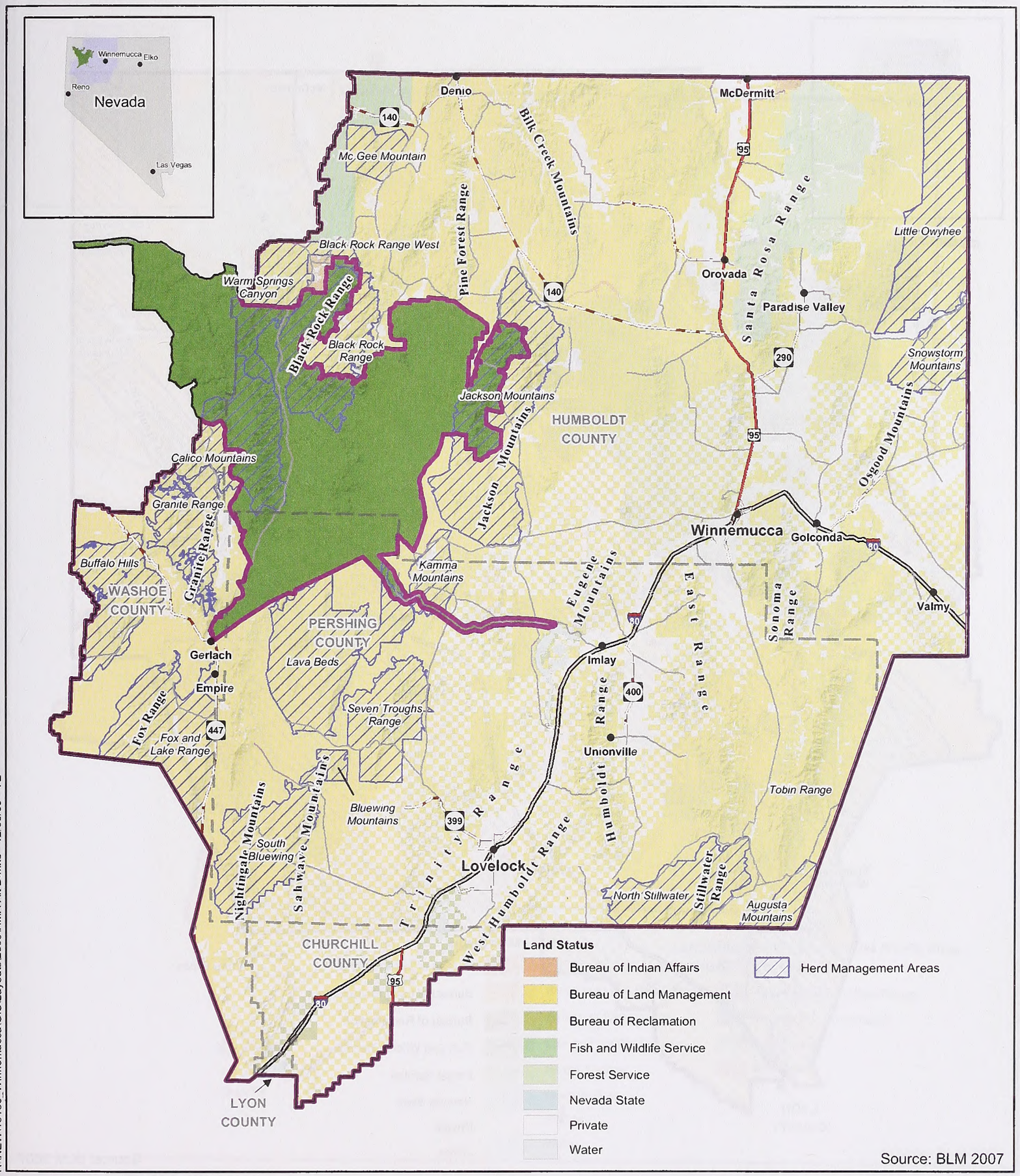
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Herd Areas - Alternative B

Northwest Nevada

Figure 2-16



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\HMA Alt D.mxd - 12/05/09 - YE

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

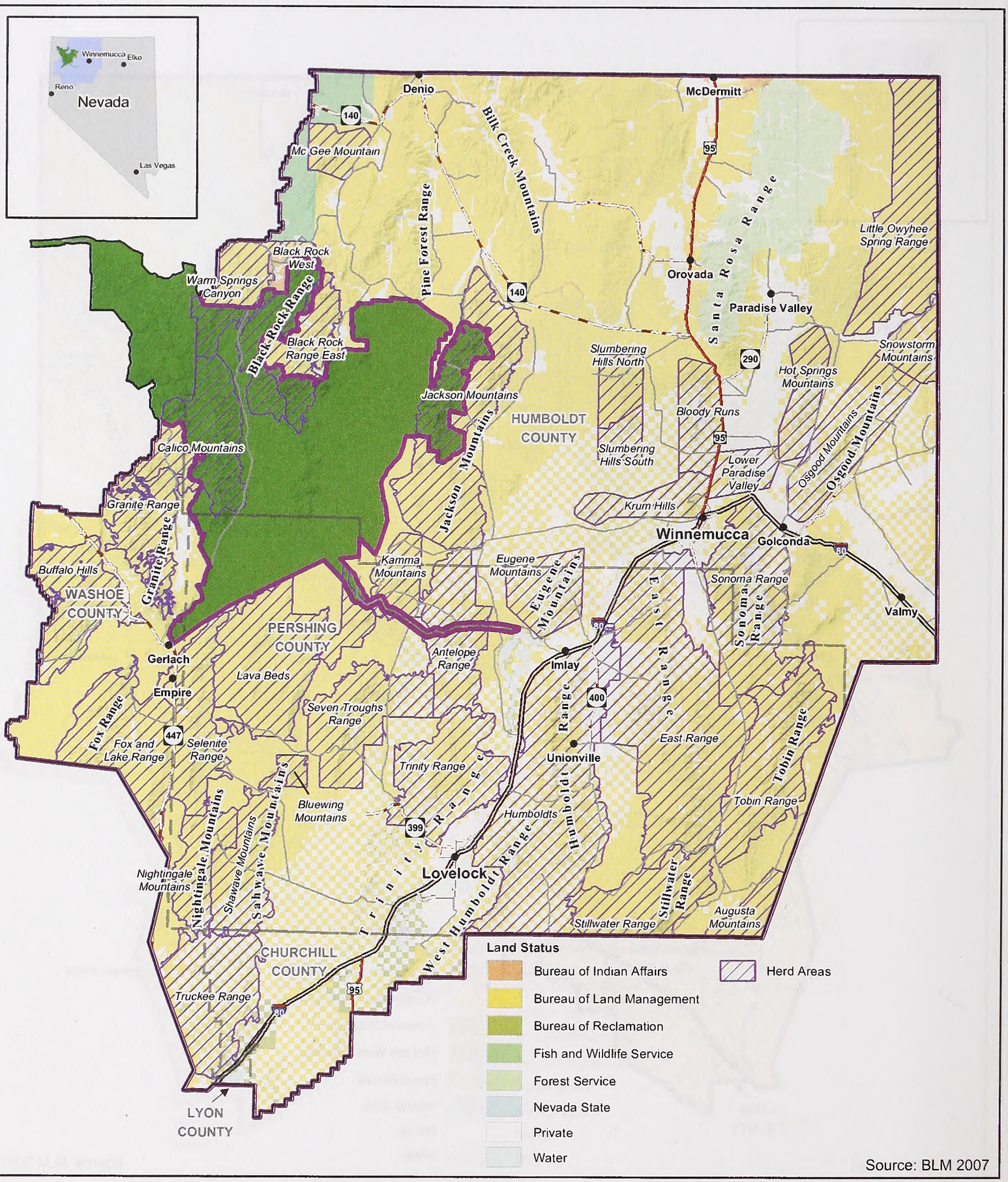
N W E S

0 10 20 Miles

Winnemucca District Office RMP Herd Management Areas - Alternative D

Northwest Nevada

Figure 2-17



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\HA Alt D.mxd - 12/05/09 - YE

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Legend

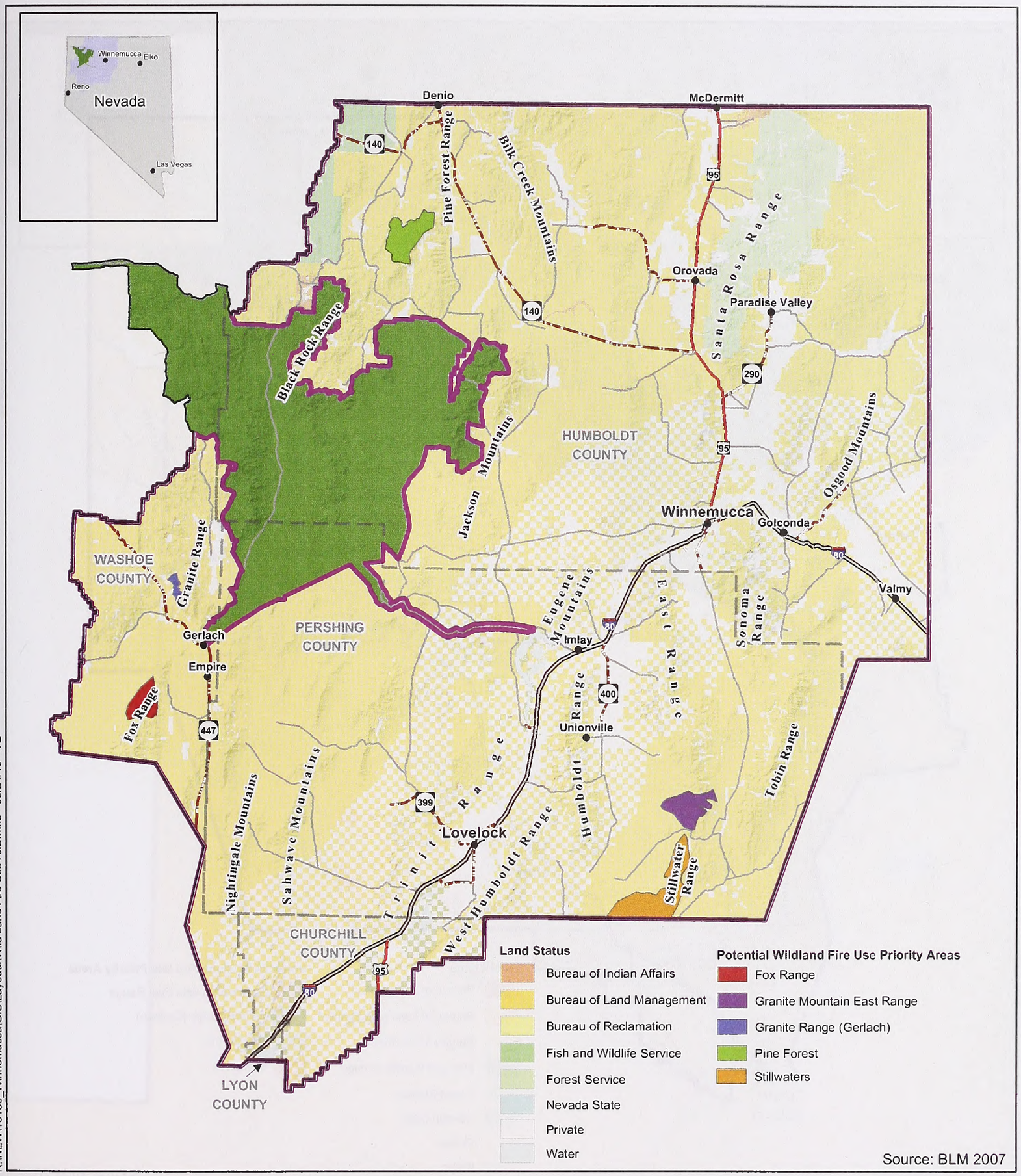
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Herd Areas - Alternative D

Northwest Nevada

Figure 2-18



R:\NEW\15186_Winnemucca\GIS\Layouts\Wild Land Fire Use AltB.mxd - 03/24/10 - YE

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Winnemucca District Office RMP Potential Wildland Fire Use Priority Areas-Alternative B

Northwest Nevada

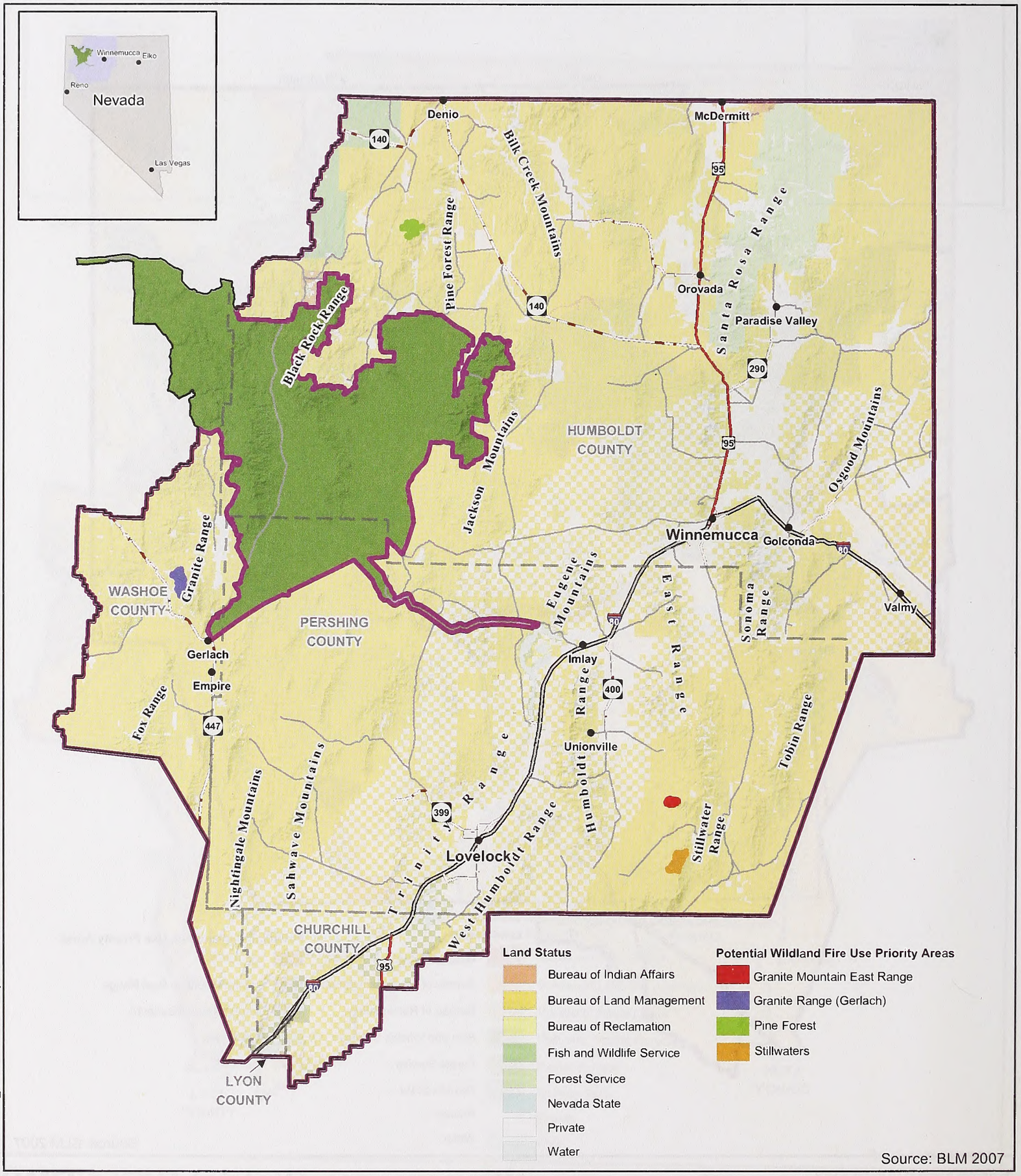
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-19



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Wild Land Fire Use AltD.mxd - 03/24/10 - YE

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Winnemucca District Office RMP
Potential Wildland Fire Use Priority Areas - Alternative D

Legend

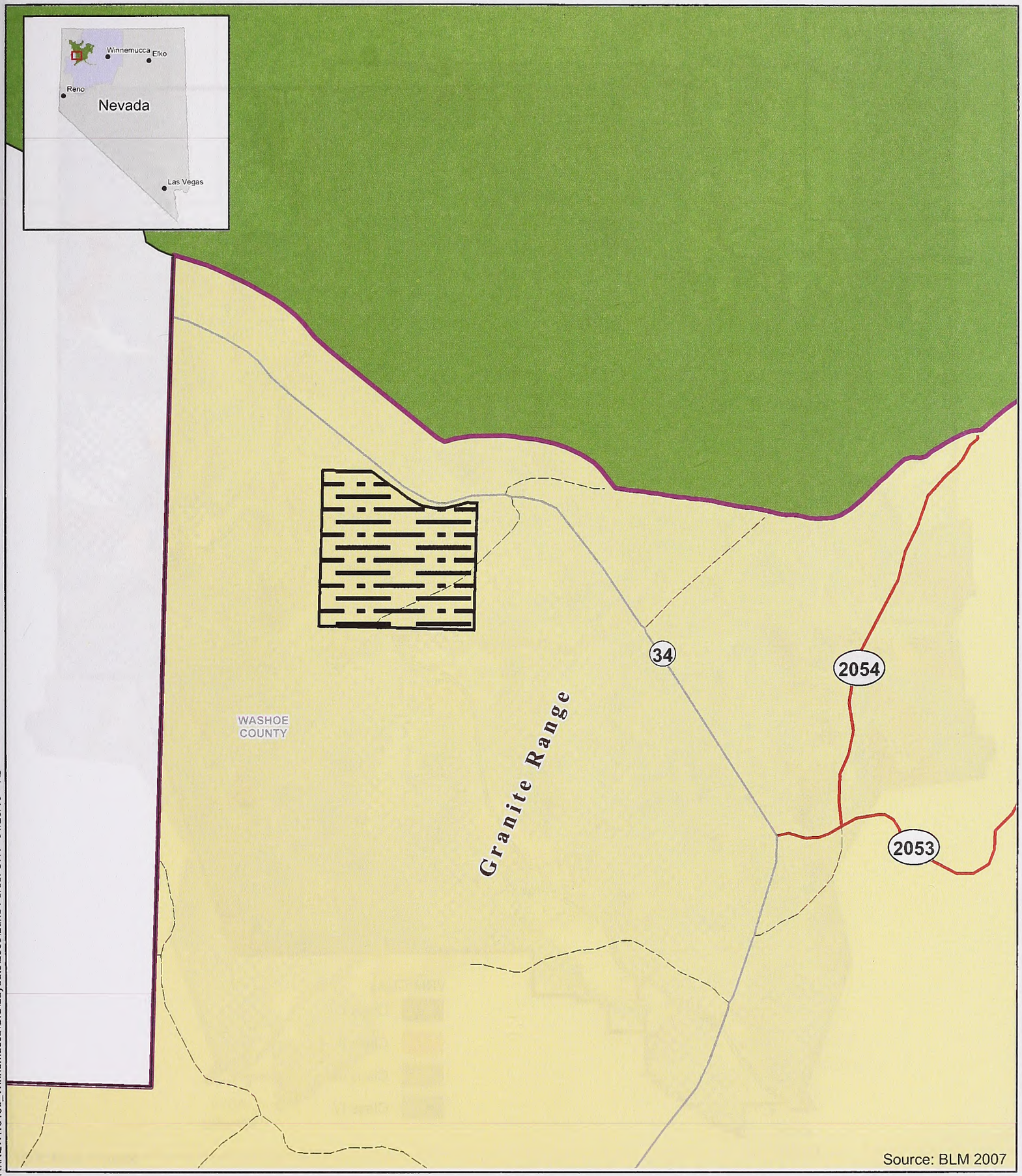
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-20



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Lund Forest OHV- 01/28/10 - YE

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N
W E
S

0 1,000 2,000 Feet

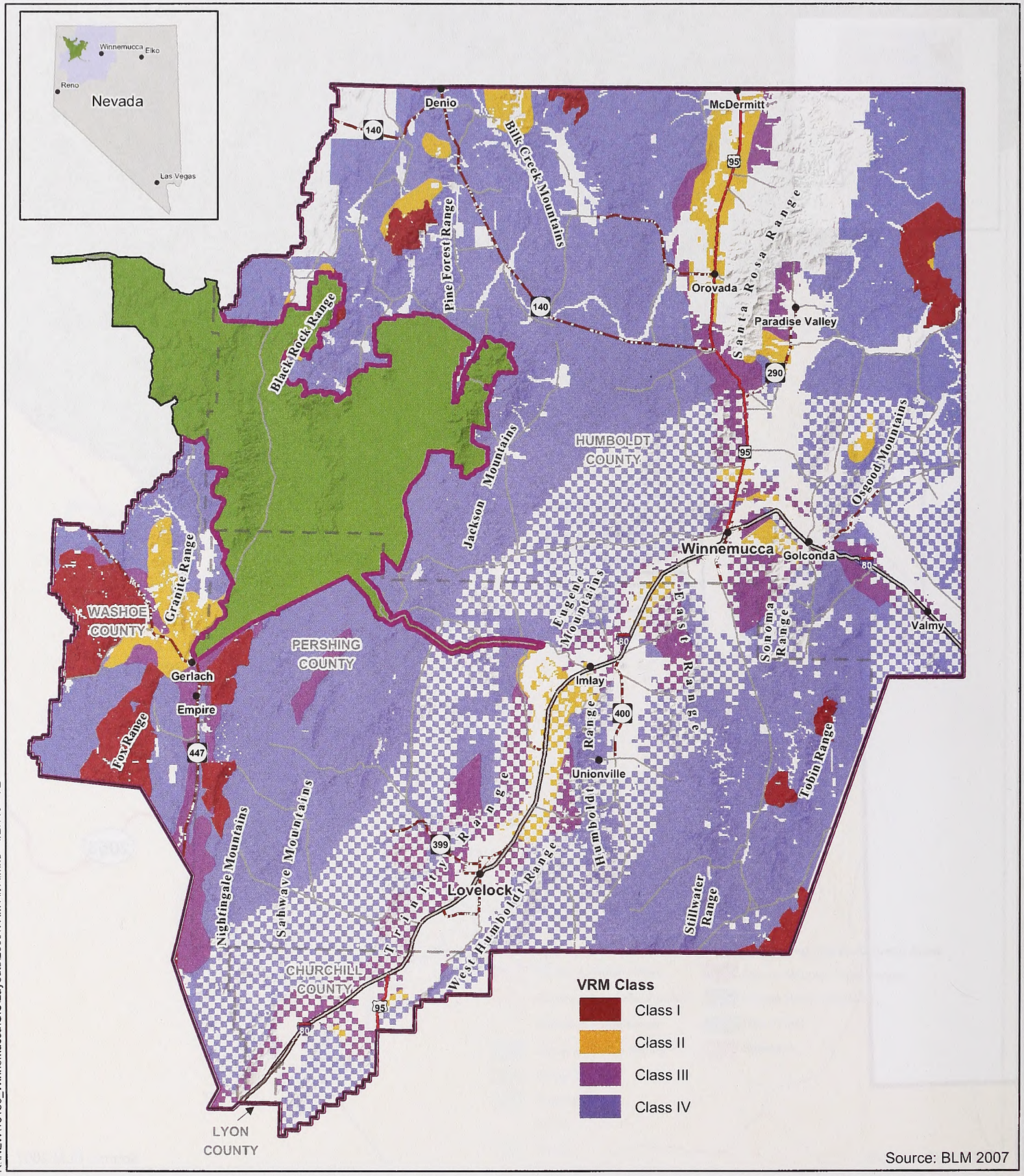
Legend

- Black Rock/High Rock NCA RMP Area
- Lund Forest Closed to OHV
- County Roads
- Other Dirt Roads
- 2011 BLM Road
- Bureau of Land Management
- Private
- BLM Winnemucca RMP Boundary
- BLM Winnemucca Field Office Administrative Boundary

Winnemucca District Office RMP Lund Forest OHV Closure - Alternatives A-D

Northwest Nevada

Figure 2-21



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\VRM Alt A.mxd - 1/27/10 - YE

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Winnemucca District Office RMP Visual Resource Management Areas - Alternative A

Northwest Nevada

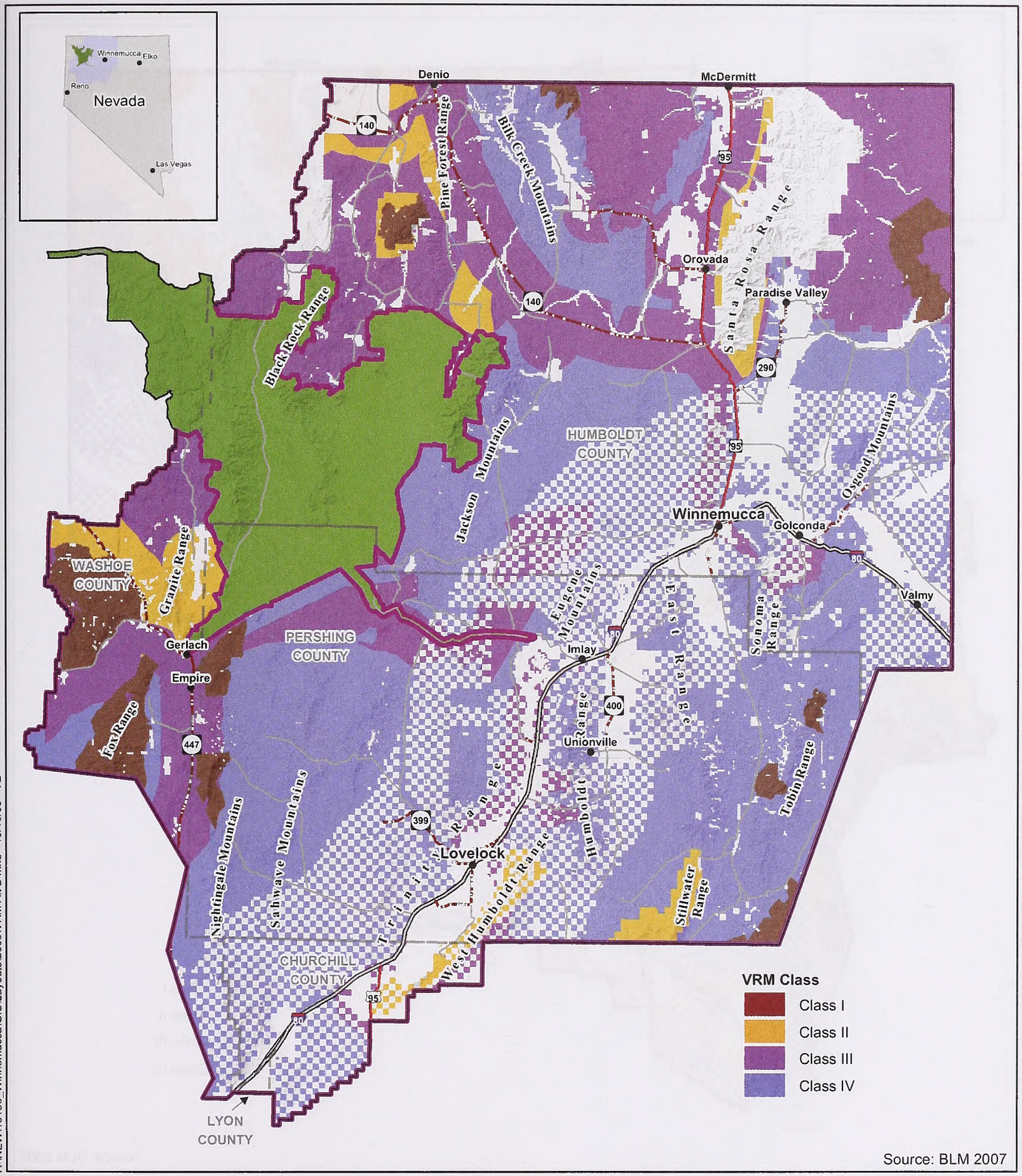
Figure 2-22

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



Source: BLM 2007

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Winnemucca District Office RMP Visual Resource Management Areas - Alternative B

Northwest Nevada

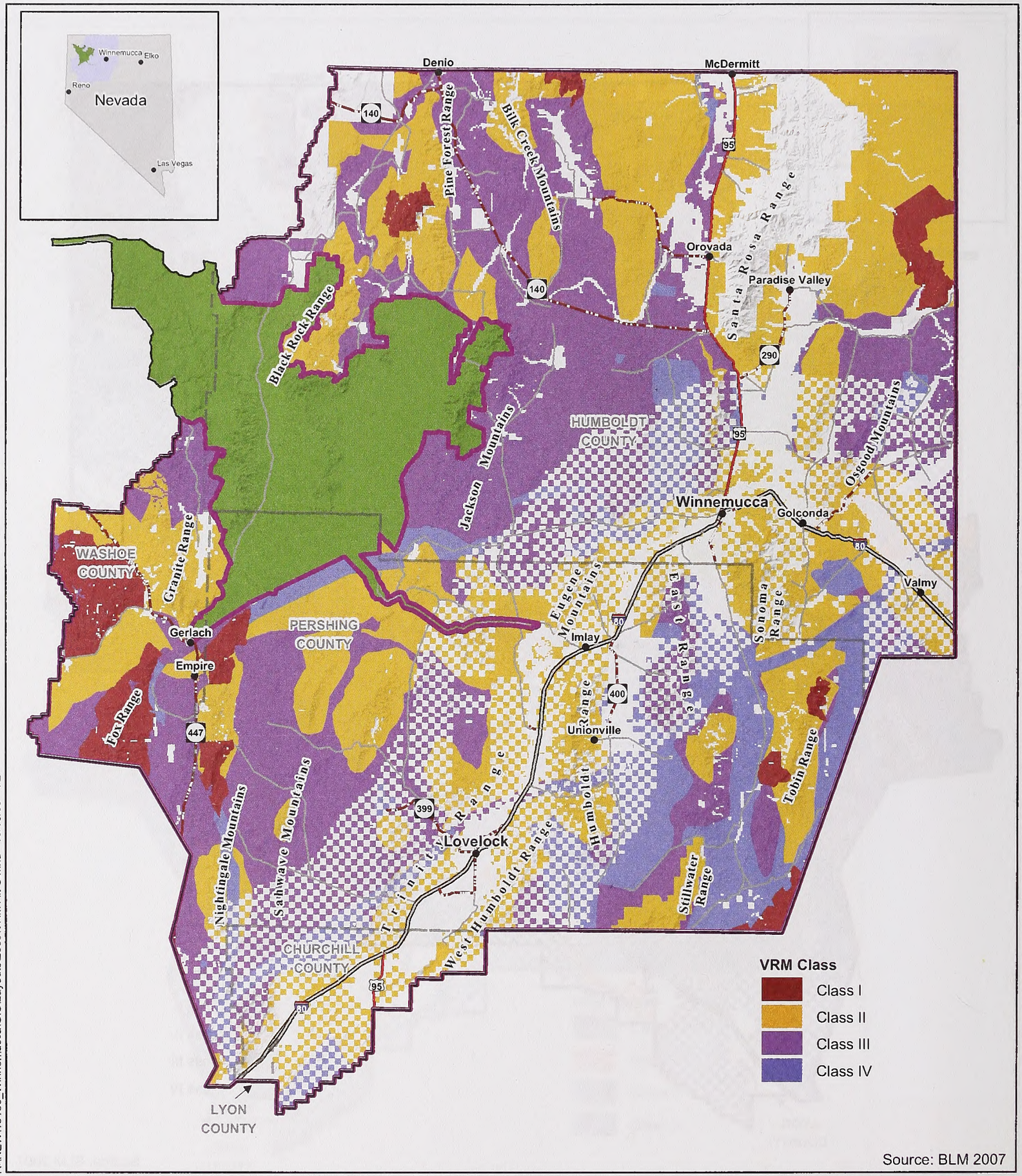
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-23



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Winnemucca District Office RMP Visual Resource Management Areas - Alternative C (Options 1 and 2)

Northwest Nevada

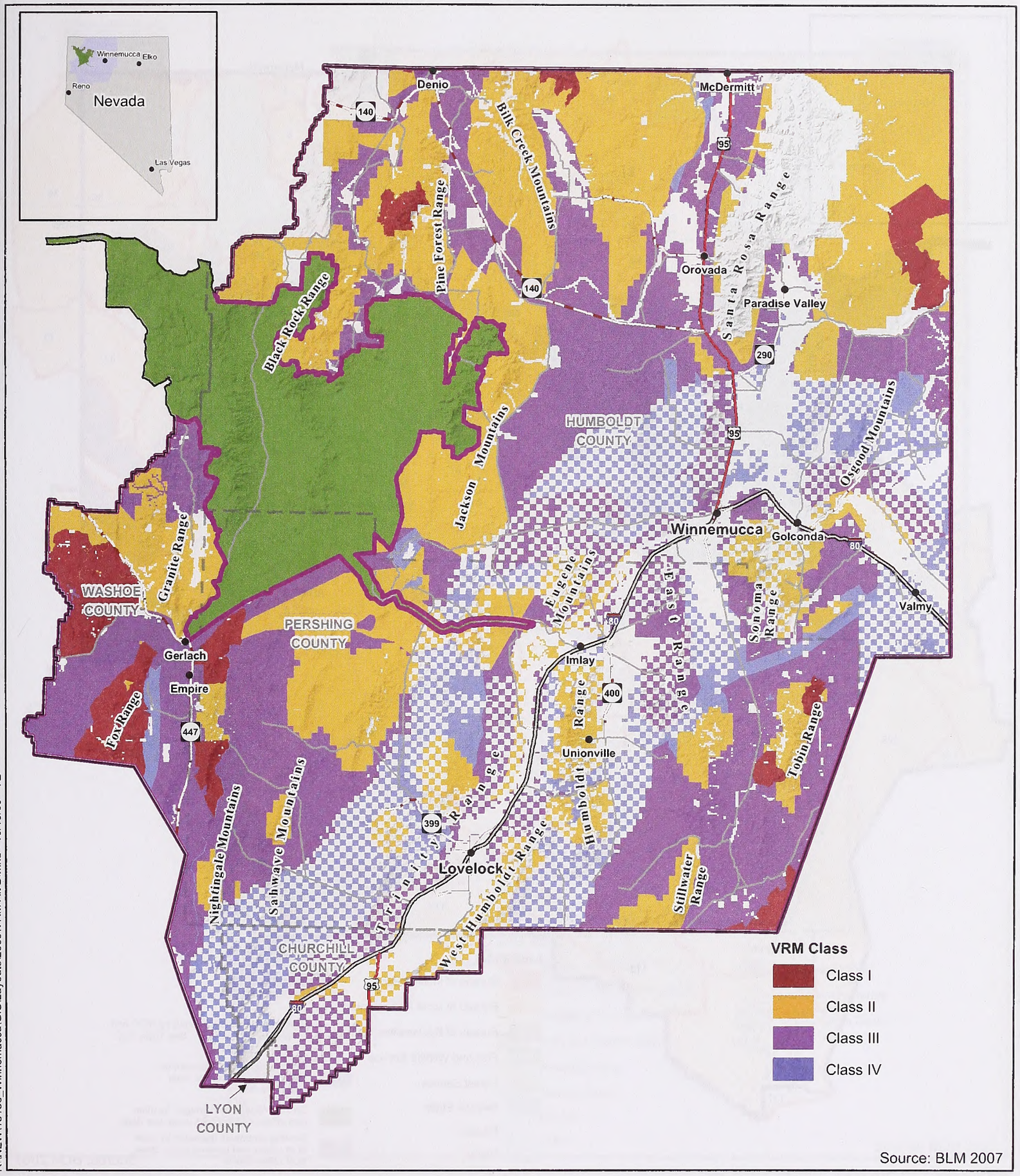
Figure 2-24

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



Source: BLM 2007

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Winnemucca District Office RMP Visual Resource Management Areas - Alternative D

Northwest Nevada

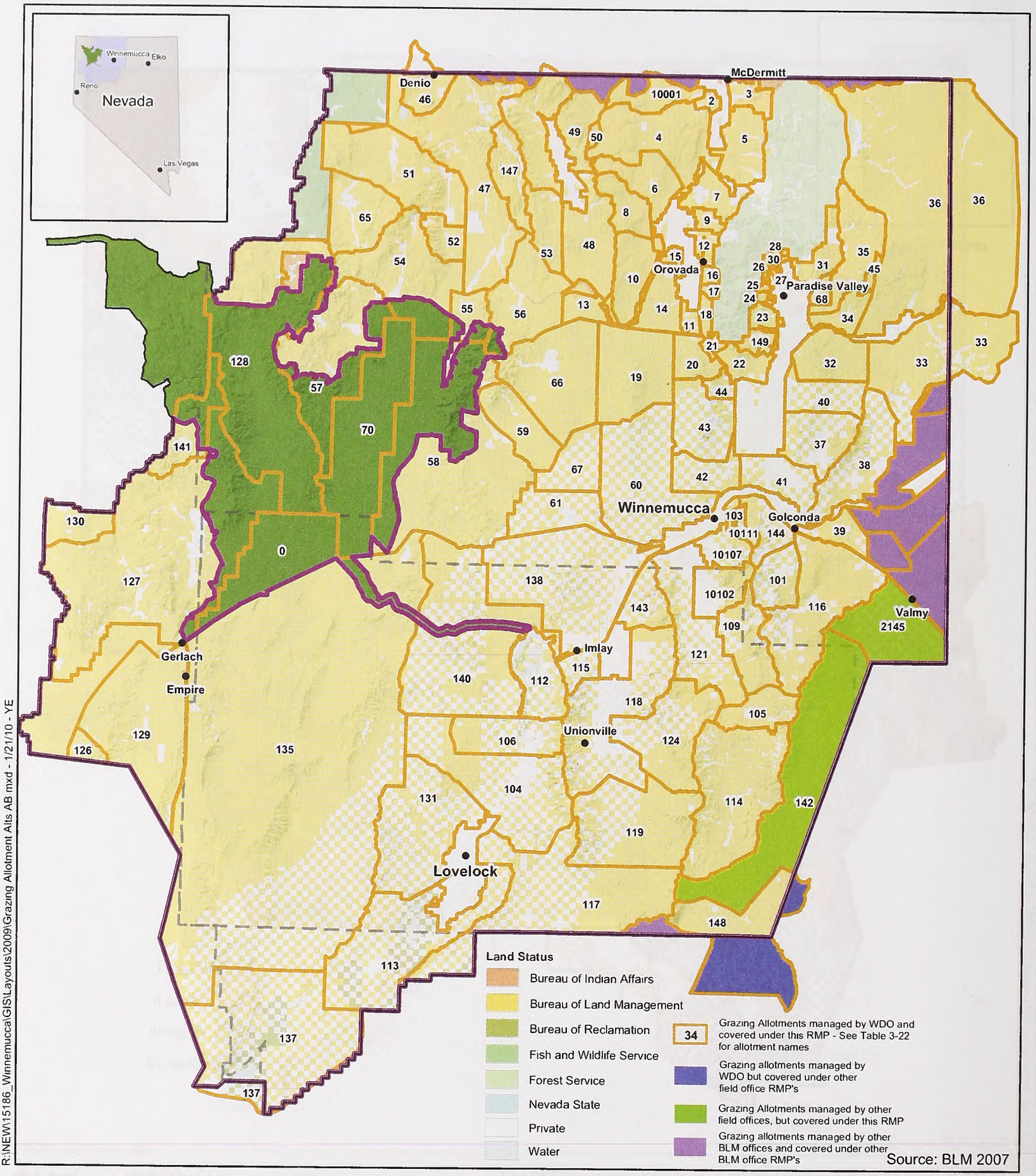
Figure 2-25

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Grazing Allotment Alts AB.mxd - 1/21/10 - YE

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns

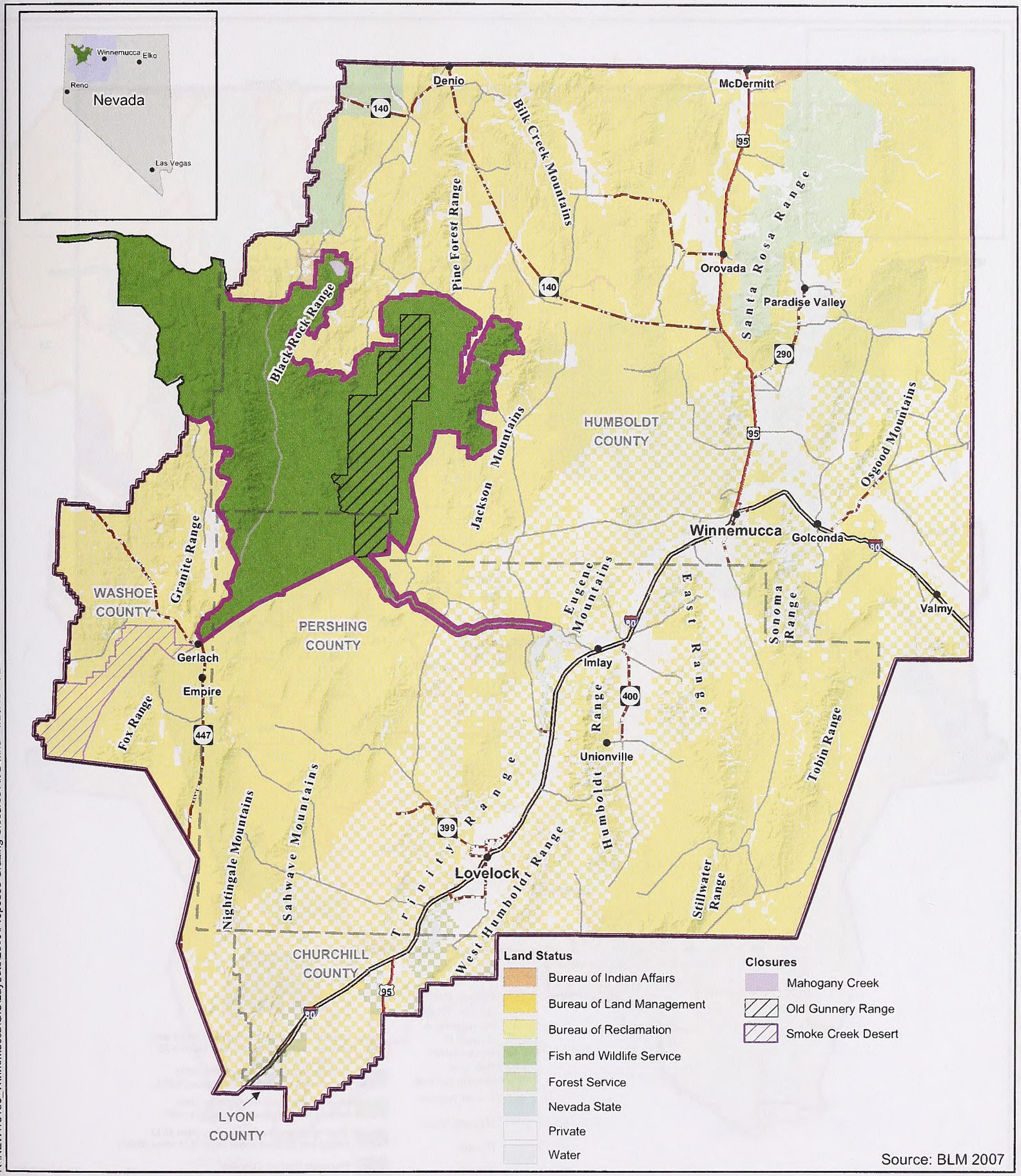
N W E S

0 10 20 Miles

Winnemucca District Office RMP Grazing Allotments - Alternatives A & B

Northwest Nevada

Figure 2-26



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Proposed Grazing Closures Alt B.mxd - 1/28/10 - YE

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Winnemucca District Office RMP Proposed Grazing Closures - Alternative B

Northwest Nevada

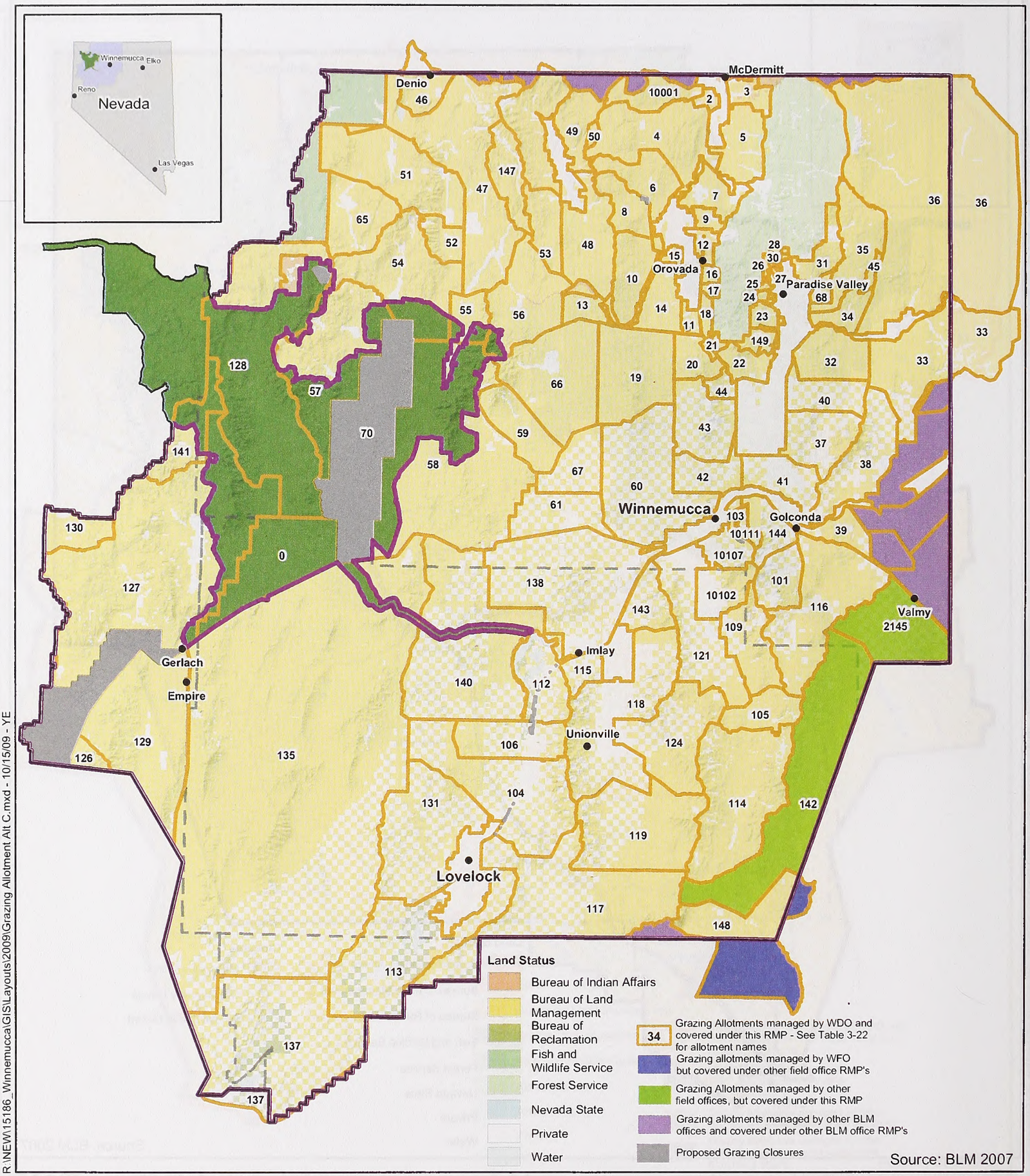
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-27



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Grazing Allotment Alt C.mxd - 10/15/09 - YE

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns

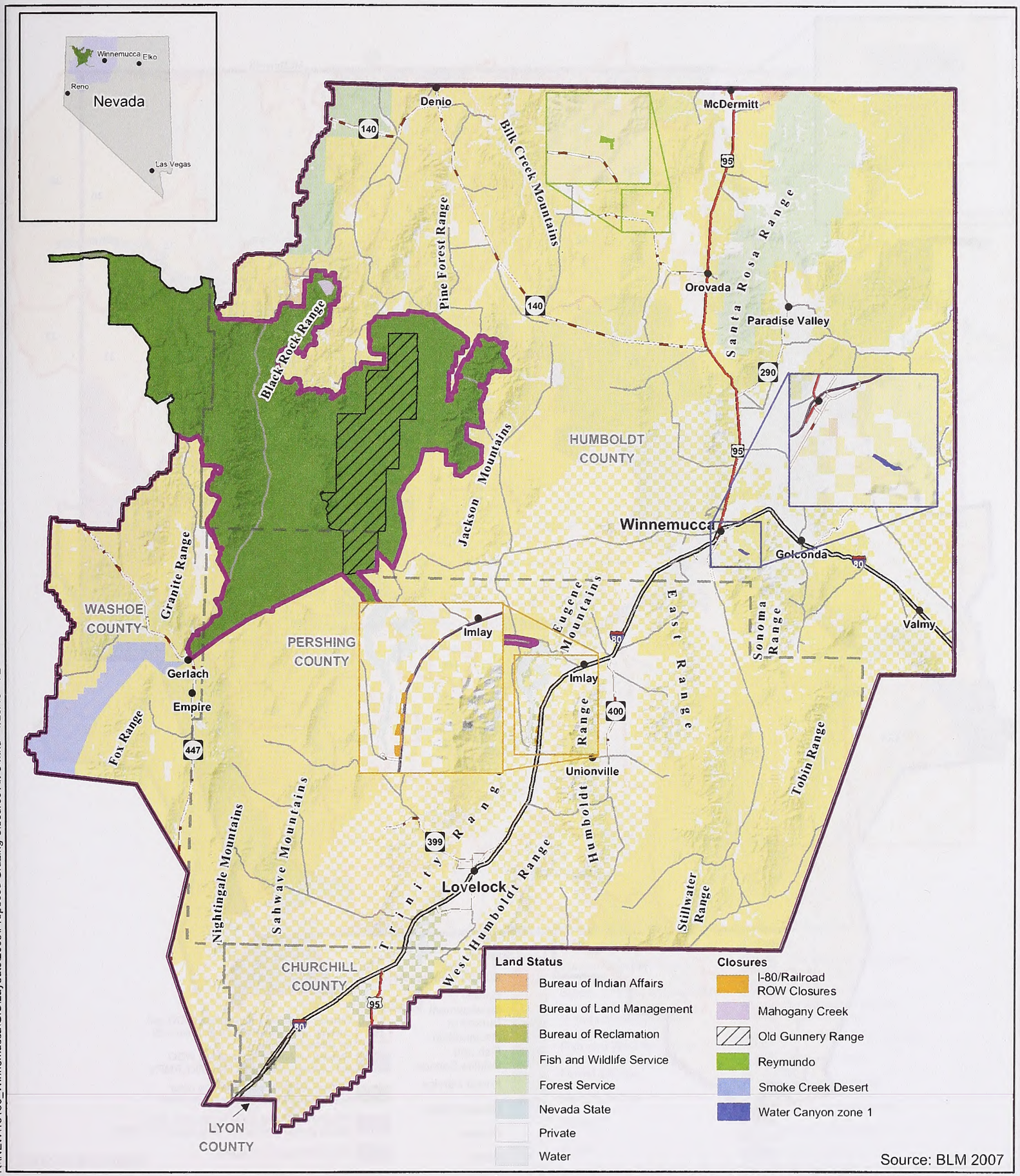
N W E S

0 10 20 Miles

Winnemucca District Office RMP Grazing Allotments - Alternative C (Option 1)

Northwest Nevada

Figure 2-28



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Proposed Grazing Closures Alt C.mxd - 1/29/10 - YE

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Winnemucca District Office RMP Proposed Grazing Closures - Alternative C (Option 1)

Legend

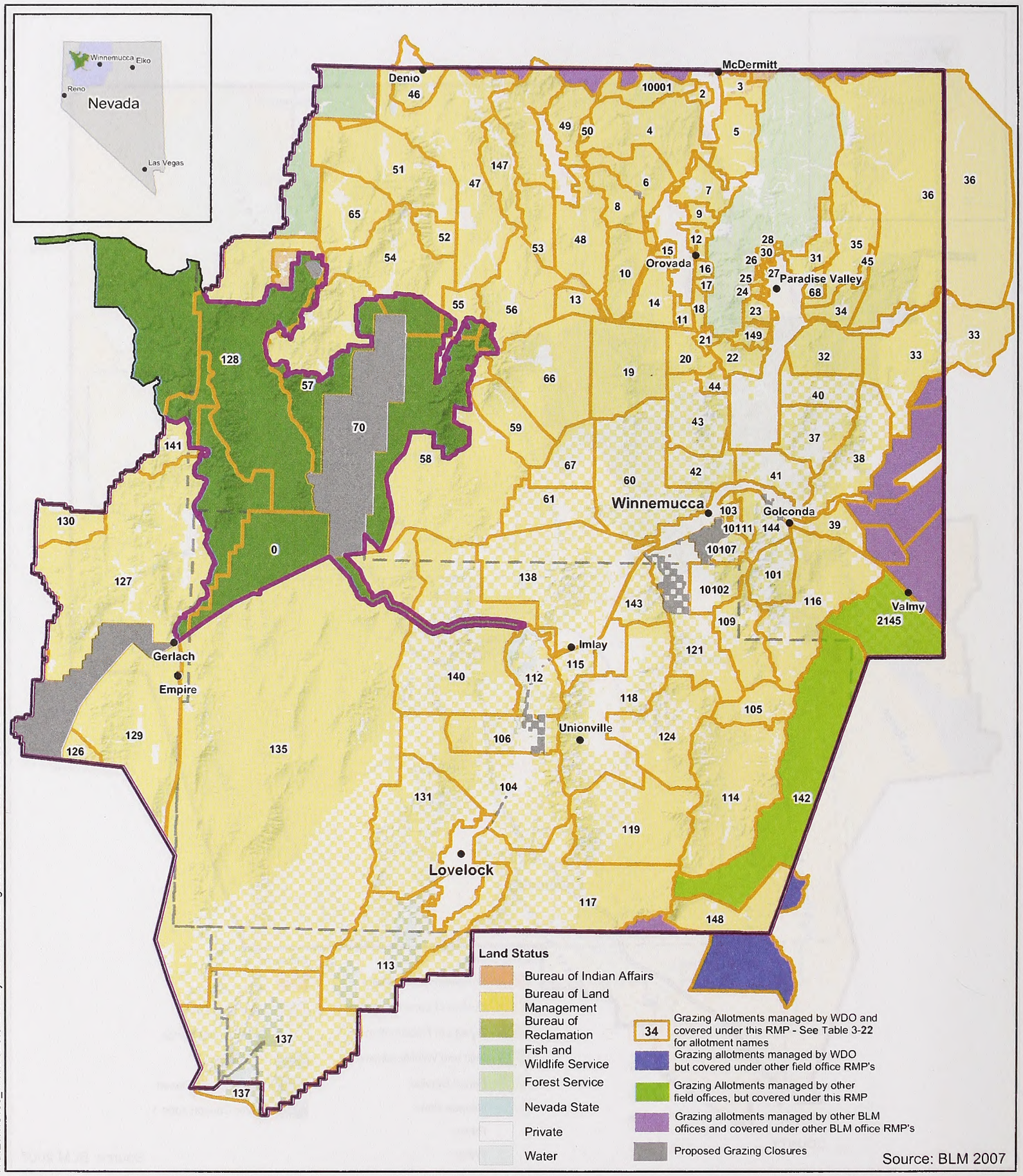
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-29



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns

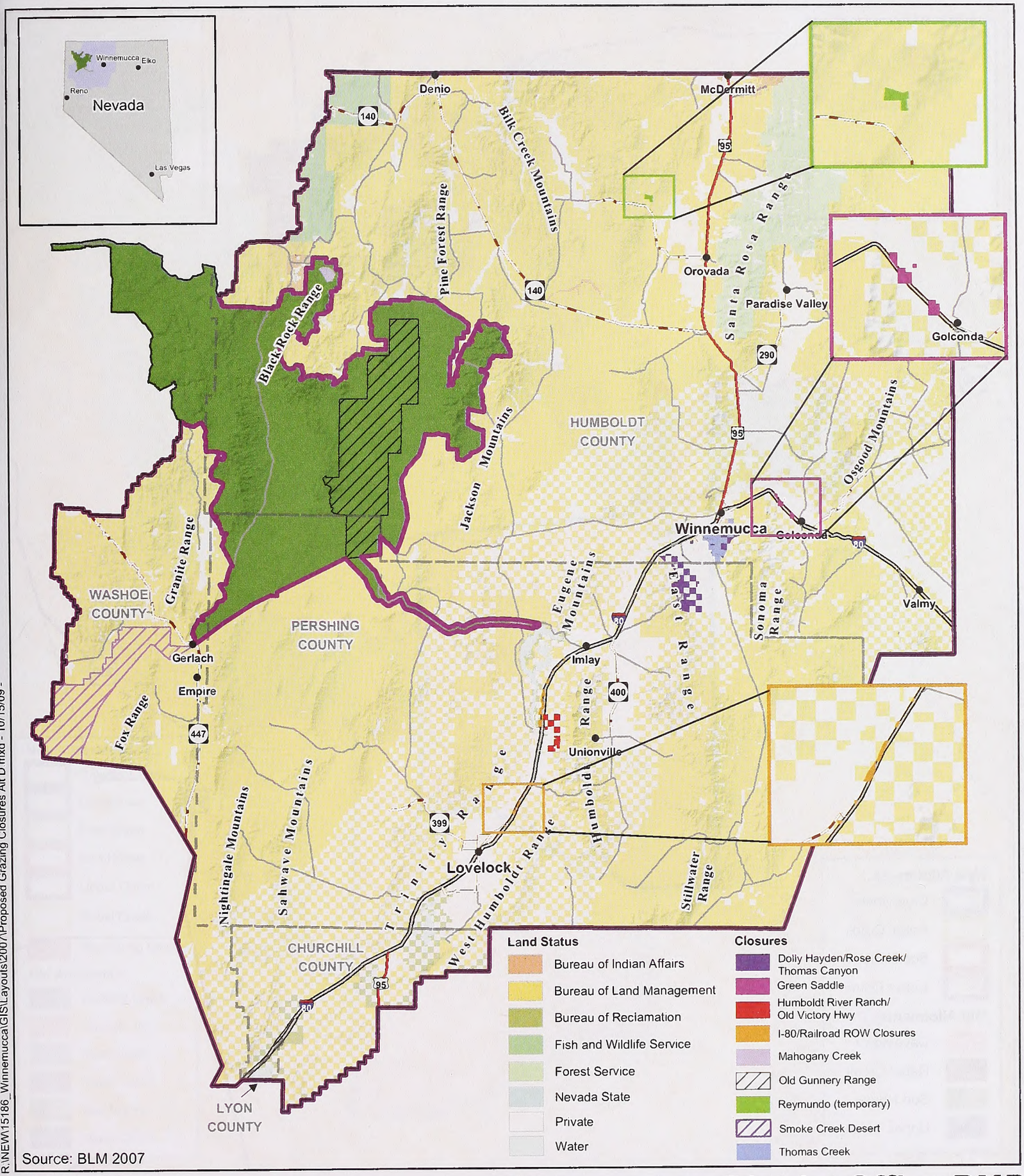
N W E S

0 10 20 Miles

Winnemucca District Office RMP Grazing Allotments - Alternative D

Northwest Nevada

Figure 2-30



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

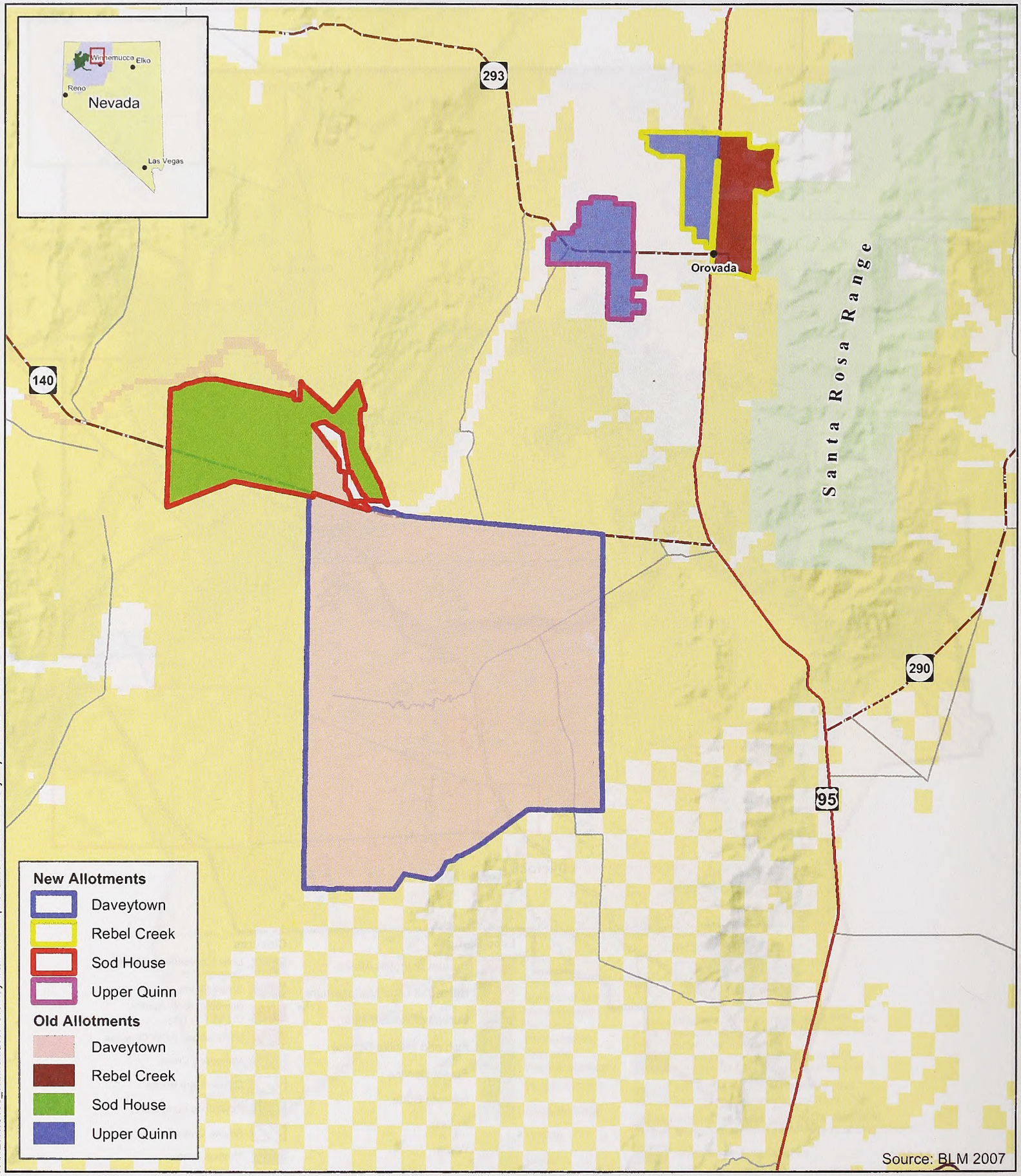
N W E S

0 10 20 Miles

Winnemucca District Office RMP Proposed Grazing Closures - Alternative D

Northwest Nevada

Figure 2-31



R:\NEW\15186_Winnemucca\GIS\Layouts\2007\Proposed Allotment Boundary Adjustments Alt B.mxd - 10/19/09 - YE

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Winnemucca District Office RMP
Proposed Allotment Boundary Adjustments - Alternative B

Northwest Nevada

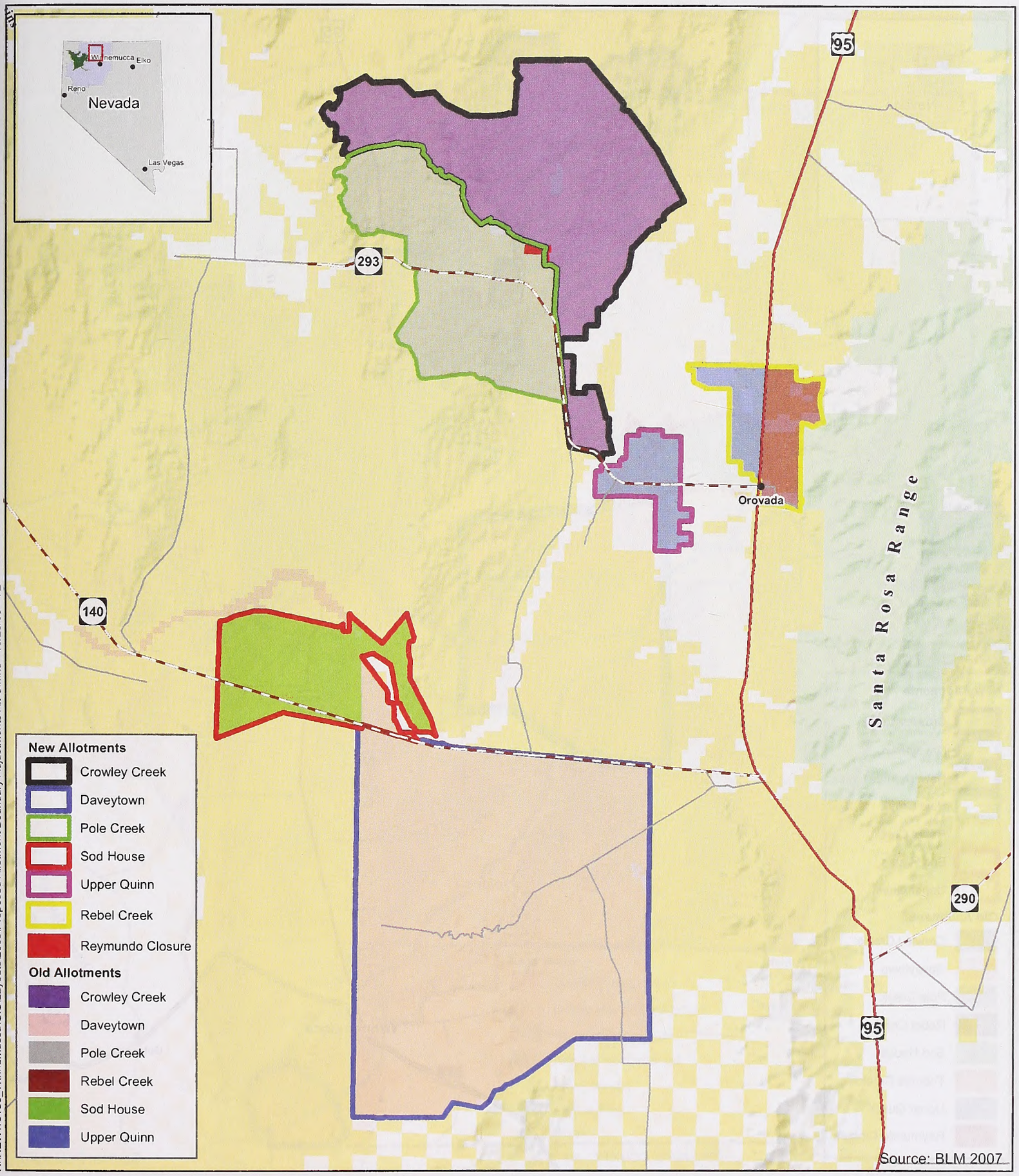
Figure 2-32

Legend

- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- Bureau of Indian Affairs
- Bureau of Land Management
- Forest Service
- Private

N W E S

0 3 6 Miles



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Winnemucca District Office RMP
Proposed Allotment Boundary Adjustments - Alternative C (Option 1)

Northwest Nevada

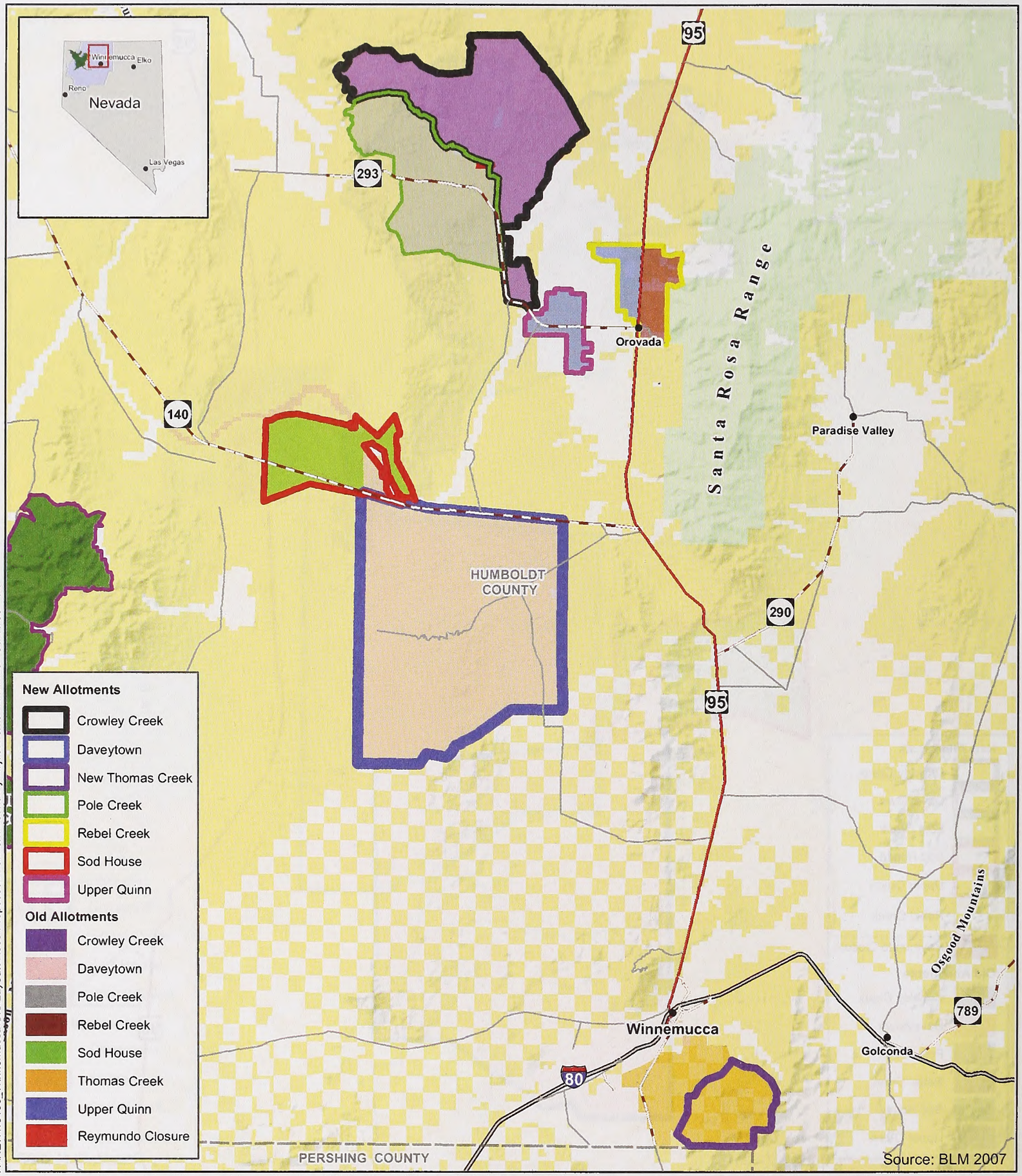
Figure 2-33

N
W E
S

0 3 6 Miles

Legend

- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- Bureau of Indian Affairs
- Bureau of Land Management
- Forest Service
- Private



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Proposed Allotment Boundary Adjustments Alt D.mxd - 01/21/09 - YE

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Winnemucca District Office RMP
Proposed Allotment Boundary Adjustments - Alternative D

N W E S

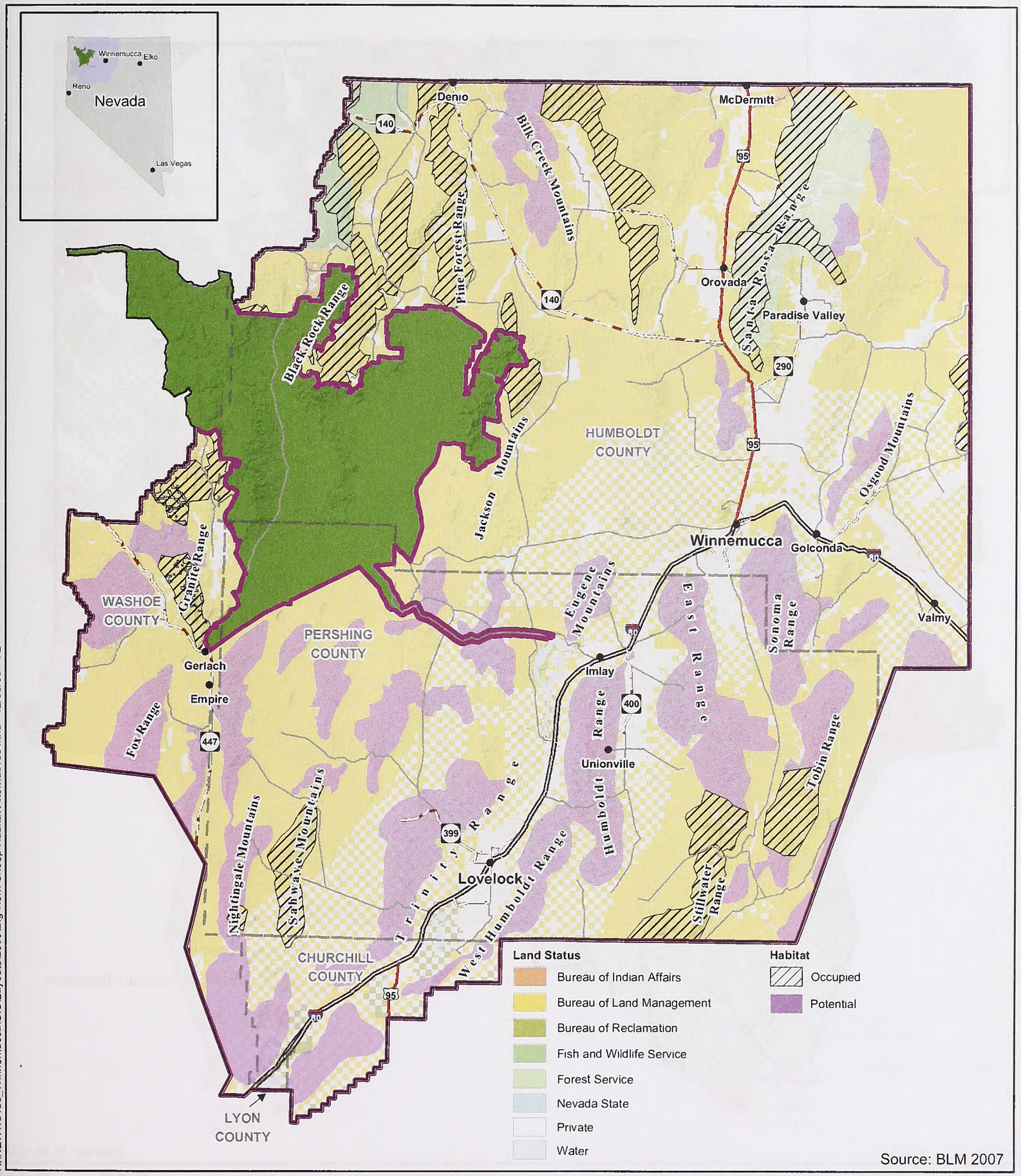
0 4.5 9 Miles

Legend

- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- Bureau of Indian Affairs
- Bureau of Land Management
- Forest Service
- Private
- Water
- Towns
- Black Rock/High Rock NCA RMP Area
- County Boundaries

Northwest Nevada

Figure 2-34



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Big Horn Sheep Habitat Alternatives.mxd - 12/05/09 - YE

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Winnemucca District Office RMP Bighorn Sheep Habitat - Alternatives C (Options 1 and 2) & D

Legend

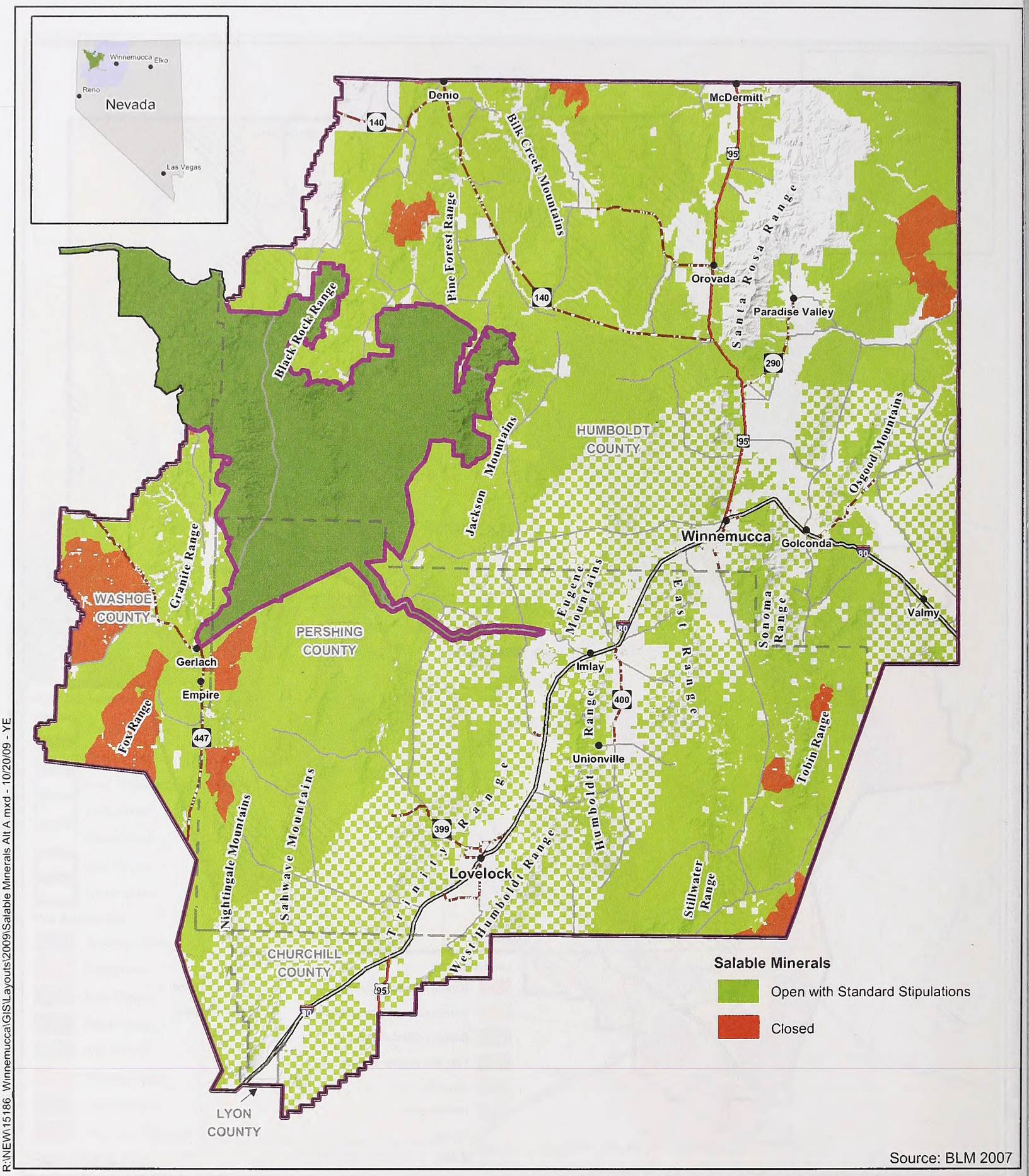
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 2 4 Miles

Northwest Nevada

Figure 2-35



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Salable Minerals Alt A.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Salable Mineral Law - Alternative A

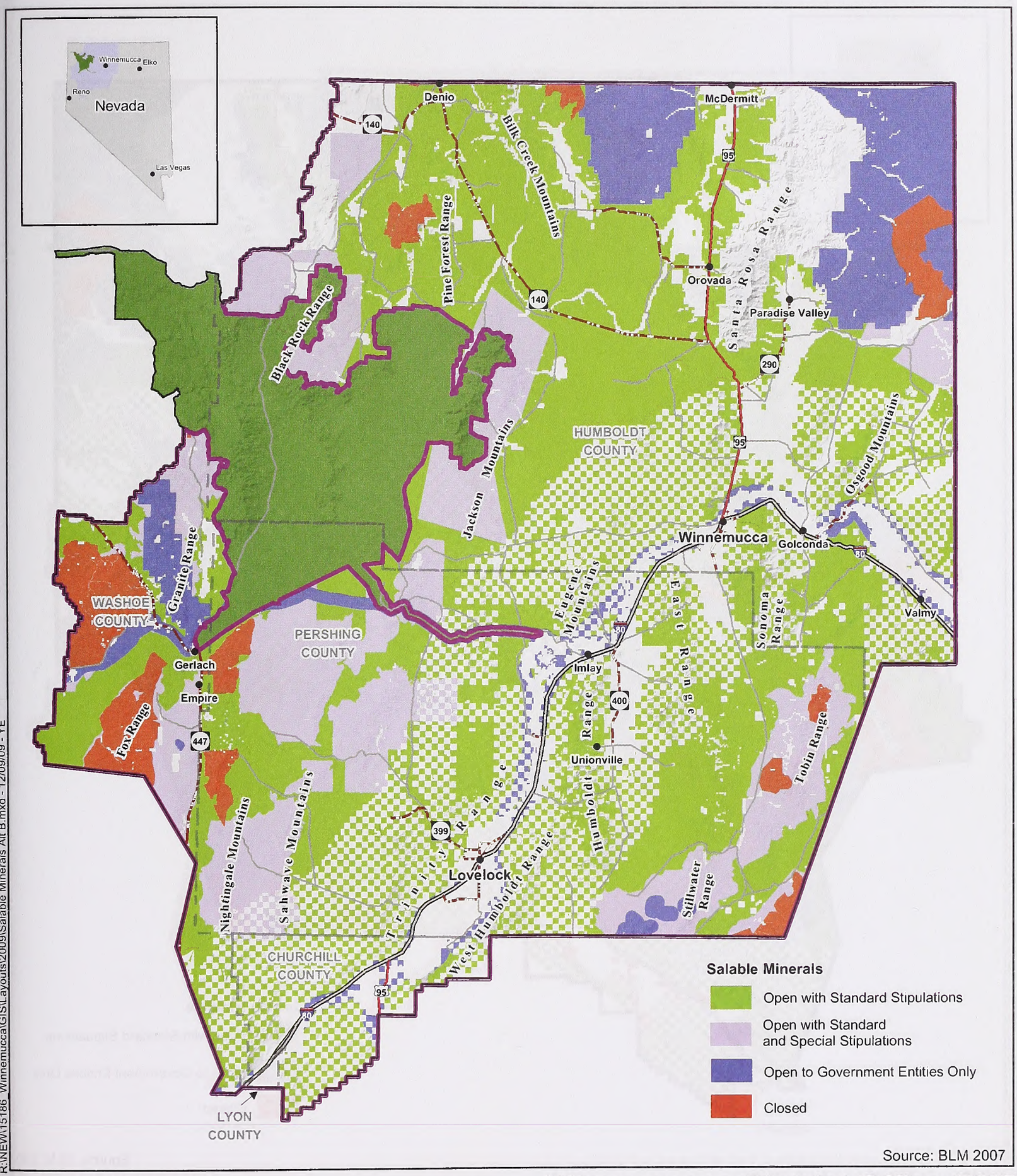
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Northwest Nevada

Figure 2-36



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Salable Minerals Alt B.mxd - 12/09/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Salable Mineral Law - Alternative B

Legend

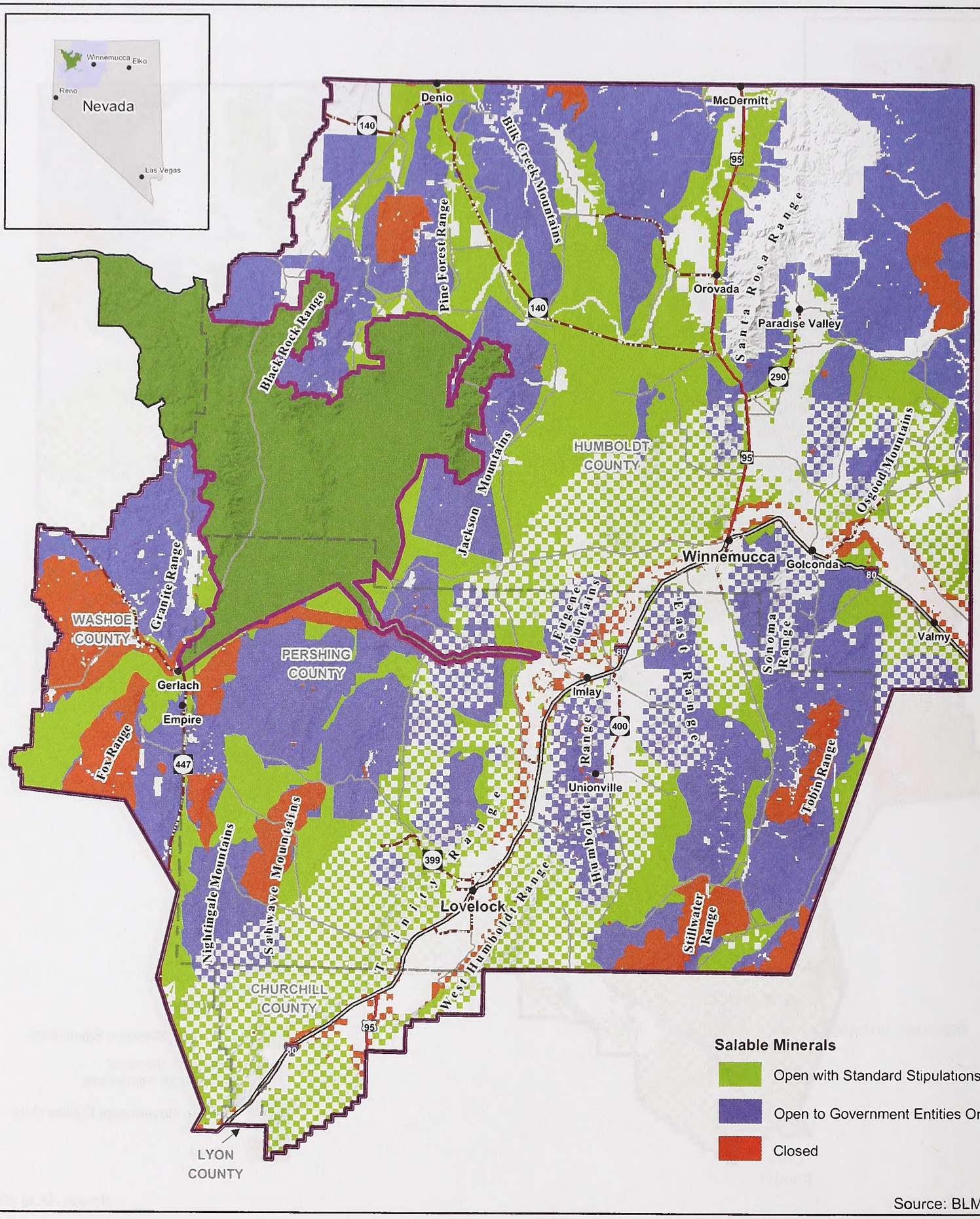
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-37



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Salable Minerals Alt C.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Salable Mineral Law - Alternative C (Options 1 and 2)

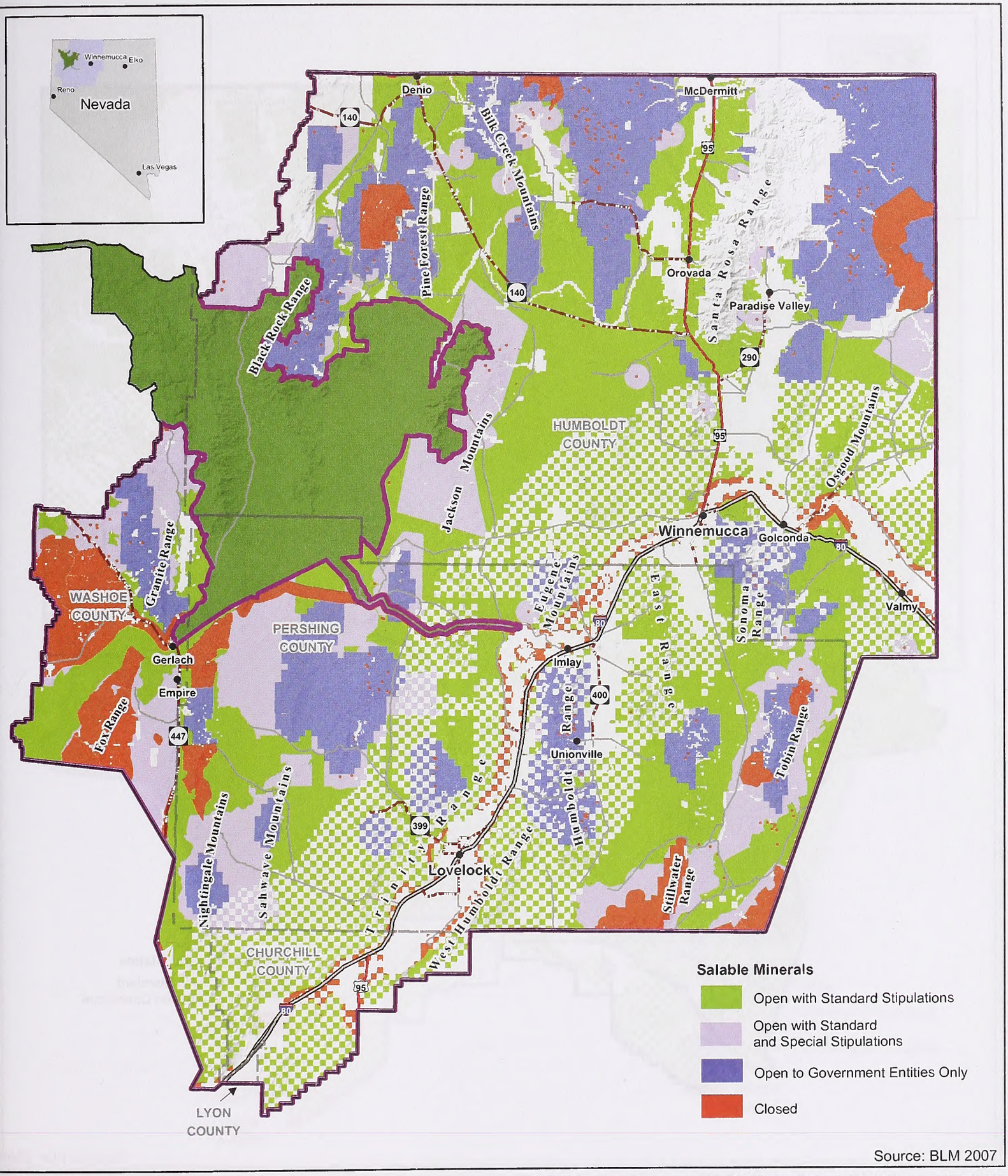
Northwest Nevada

Figure 2-38

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Salable Minerals Alt D.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Salable Mineral Law - Alternative D

Legend

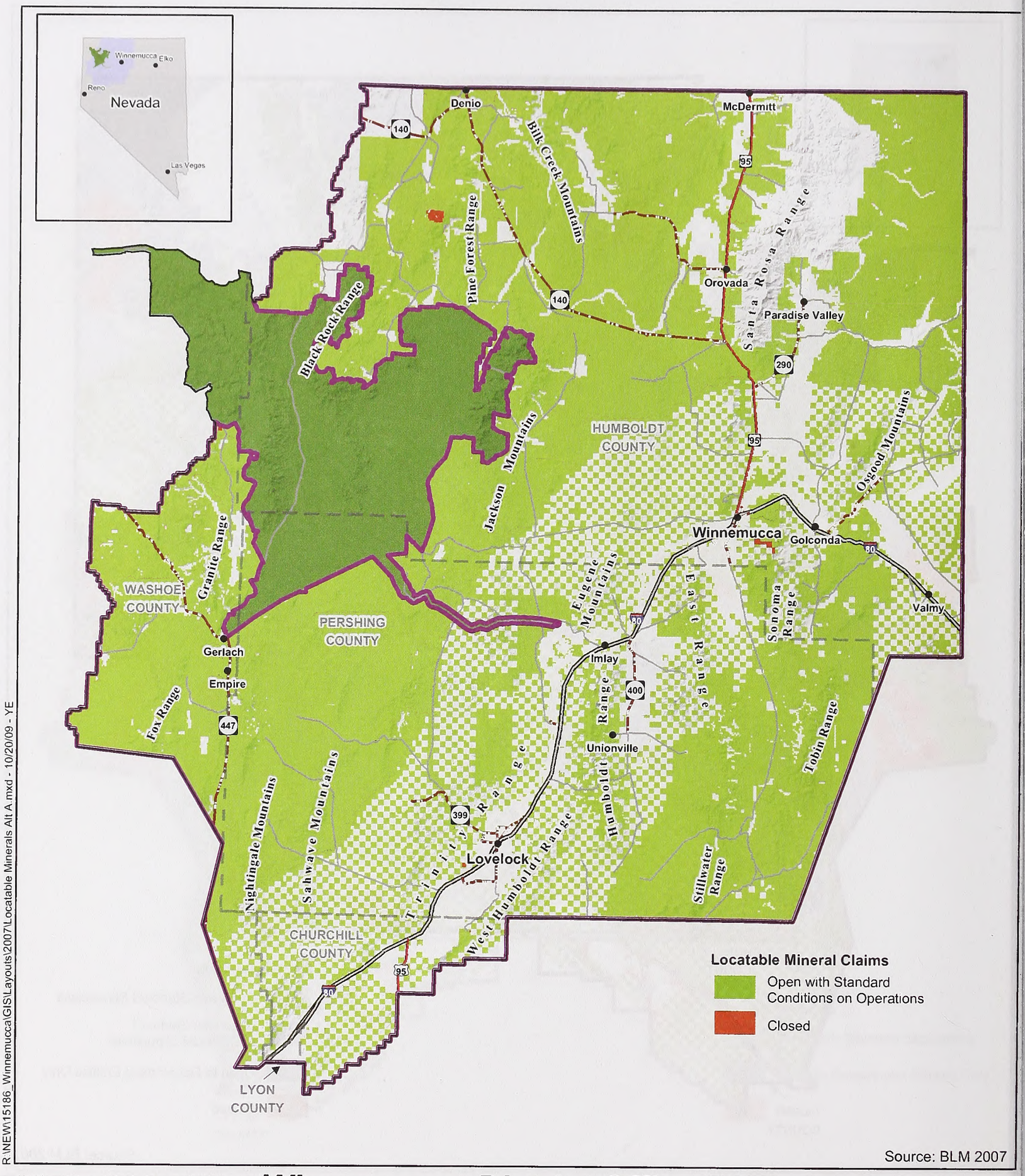
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-39



R:\NEW\15186_Winnemucca\GIS\Layouts\2007\Locatable Minerals Alt A.mxd - 10/20/09 - YE

Source: BLM 2007

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Winnemucca District Office RMP, Availability of Areas under the General Mining Law of 1872 - Alternative A

Northwest Nevada

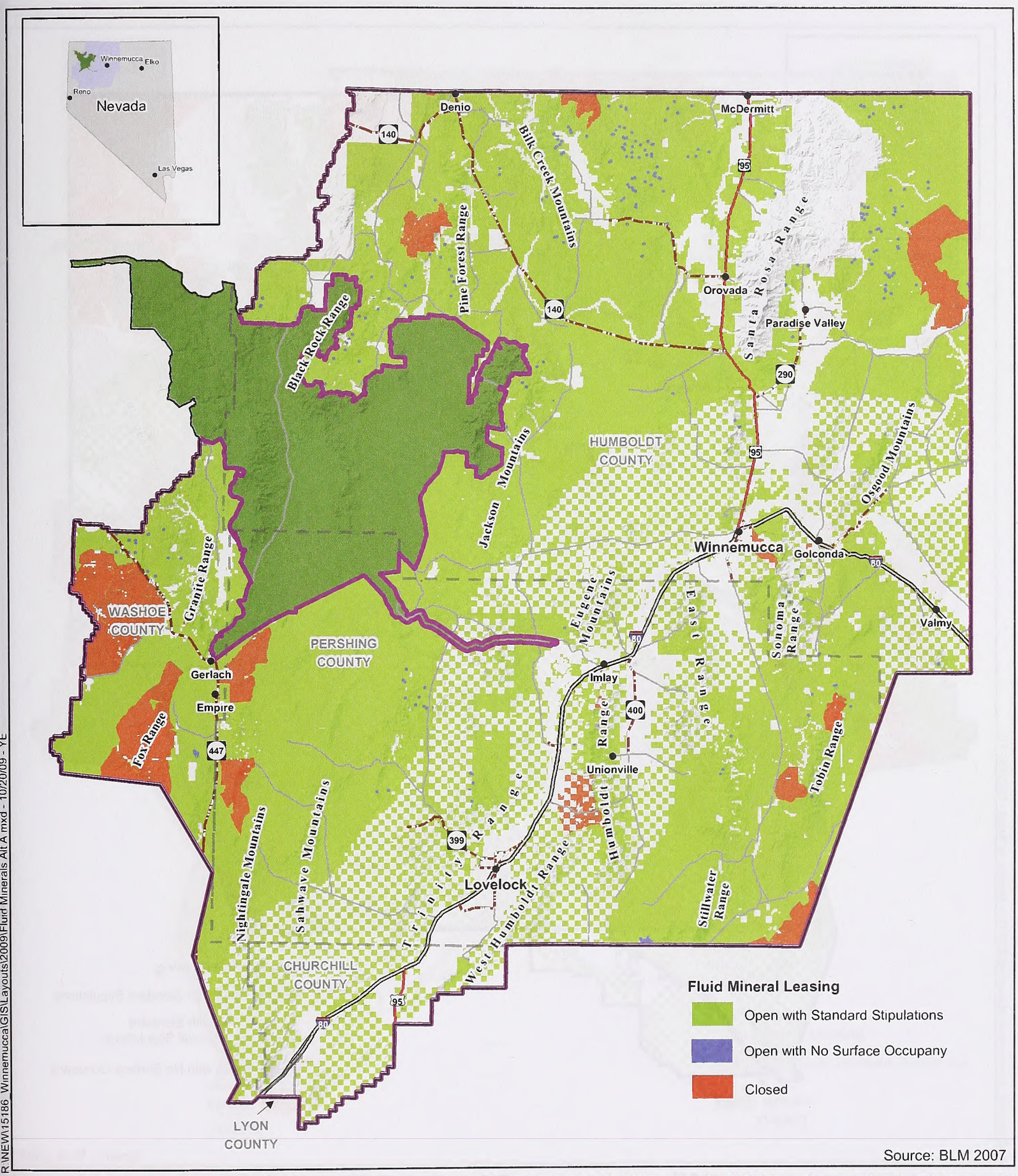
Figure 2-40

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



Source: BLM 2007

R:\NEW\15186_WinnemuccaGIS\Layouts\2009\Fluid Minerals Alt A.mxd - 10/20/09 - YE

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Winnemucca District Office RMP, Availability of Areas under the Fluid Mineral Leasing Laws - Alternative A

Northwest Nevada

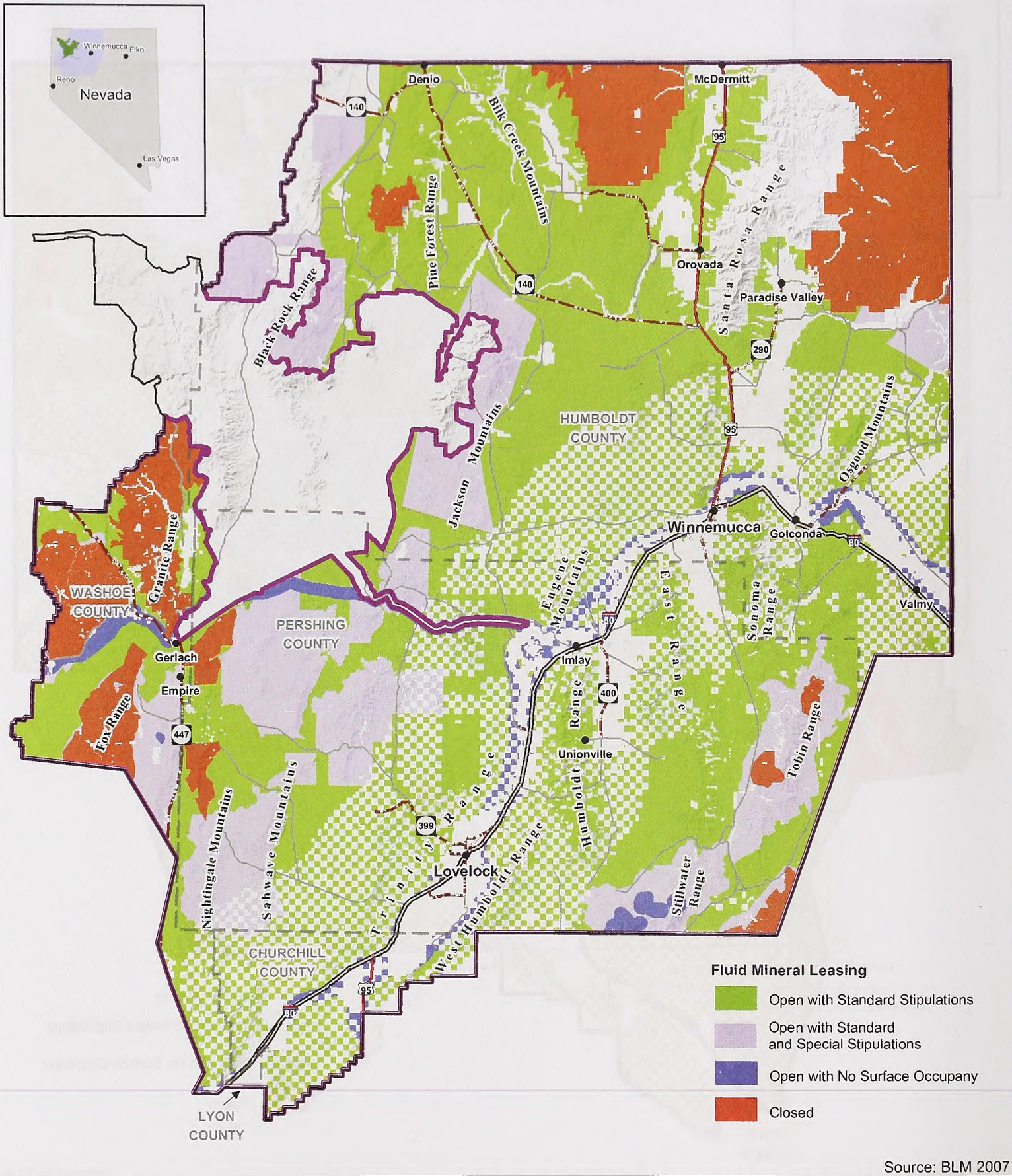
Figure 2-41

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



Source: BLM 2007

R:\NEW\15186 Winnemucca\GIS\Layouts\2009\Fluid Minerals Alt B.mxd - 10/20/09 - YE

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Winnemucca District Office RMP, Availability of Areas under the Fluid Mineral Leasing Laws - Alternative B

Northwest Nevada

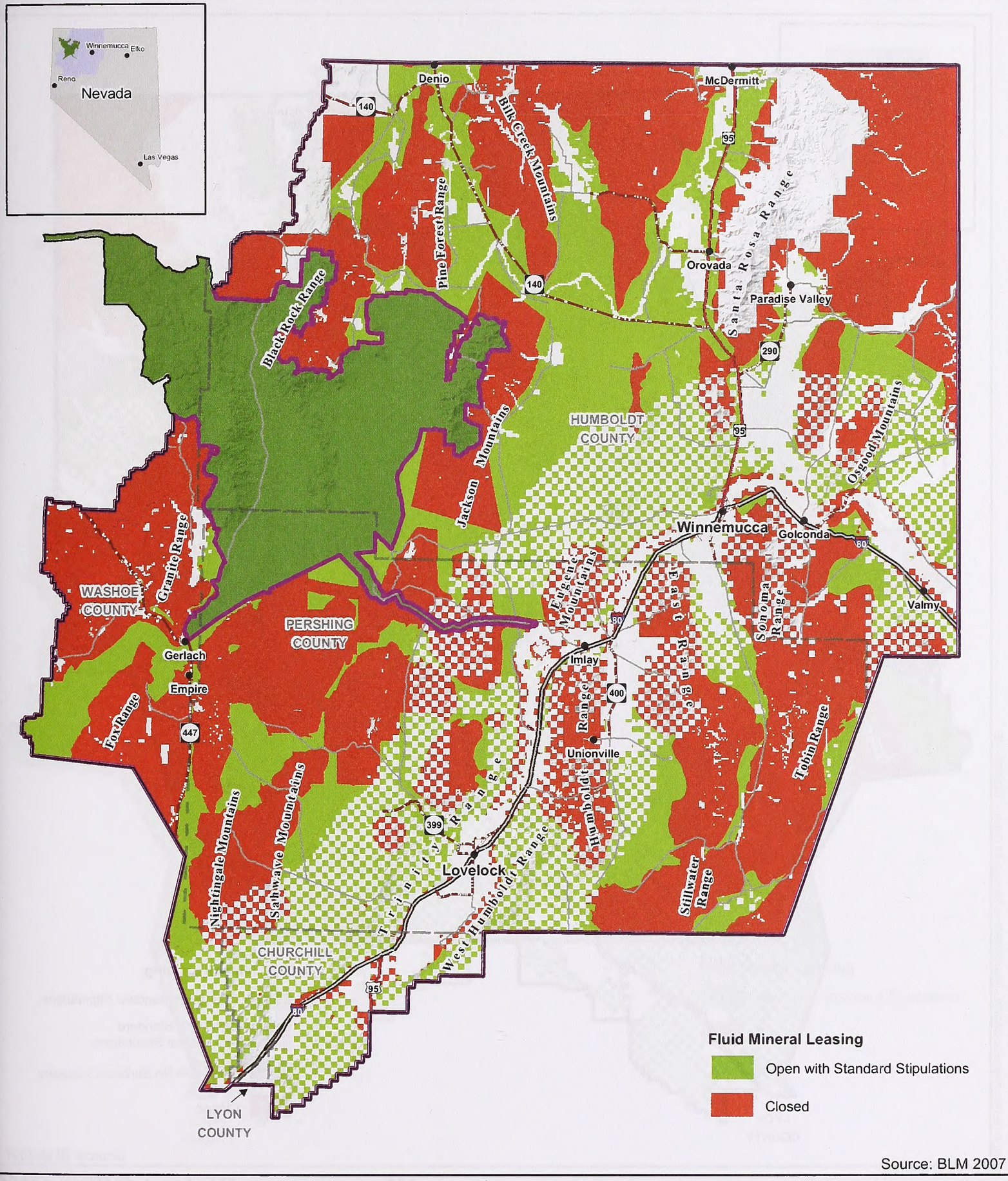
Figure 2-42

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



Source: BLM 2007

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

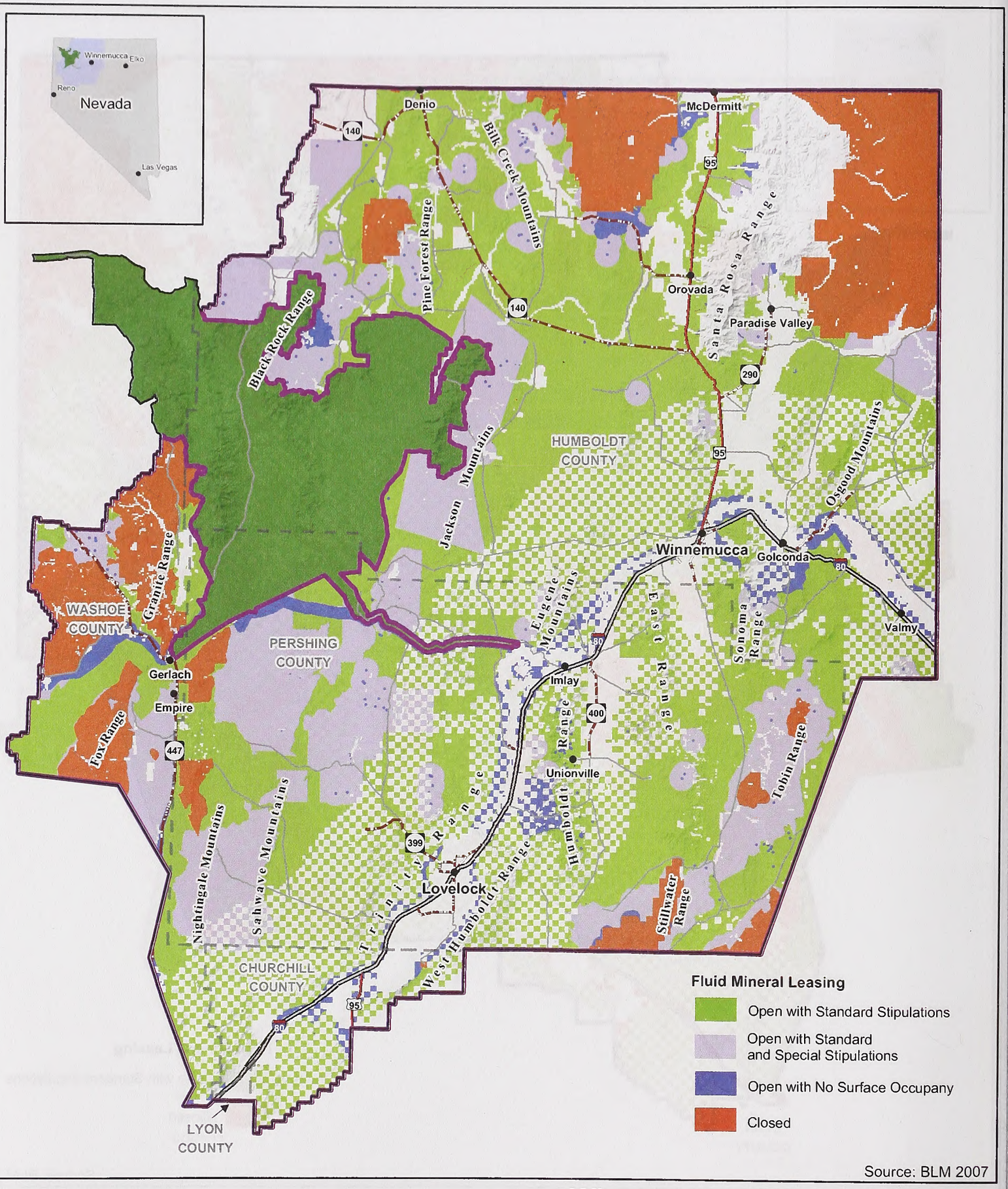
N W E S

0 10 20 Miles

Winnemucca District Office RMP, Availability of Areas under the Fluid Mineral Leasing Laws - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-43



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Fluid Minerals Alt D.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Fluid Mineral Leasing Laws - Alternative D

Northwest Nevada

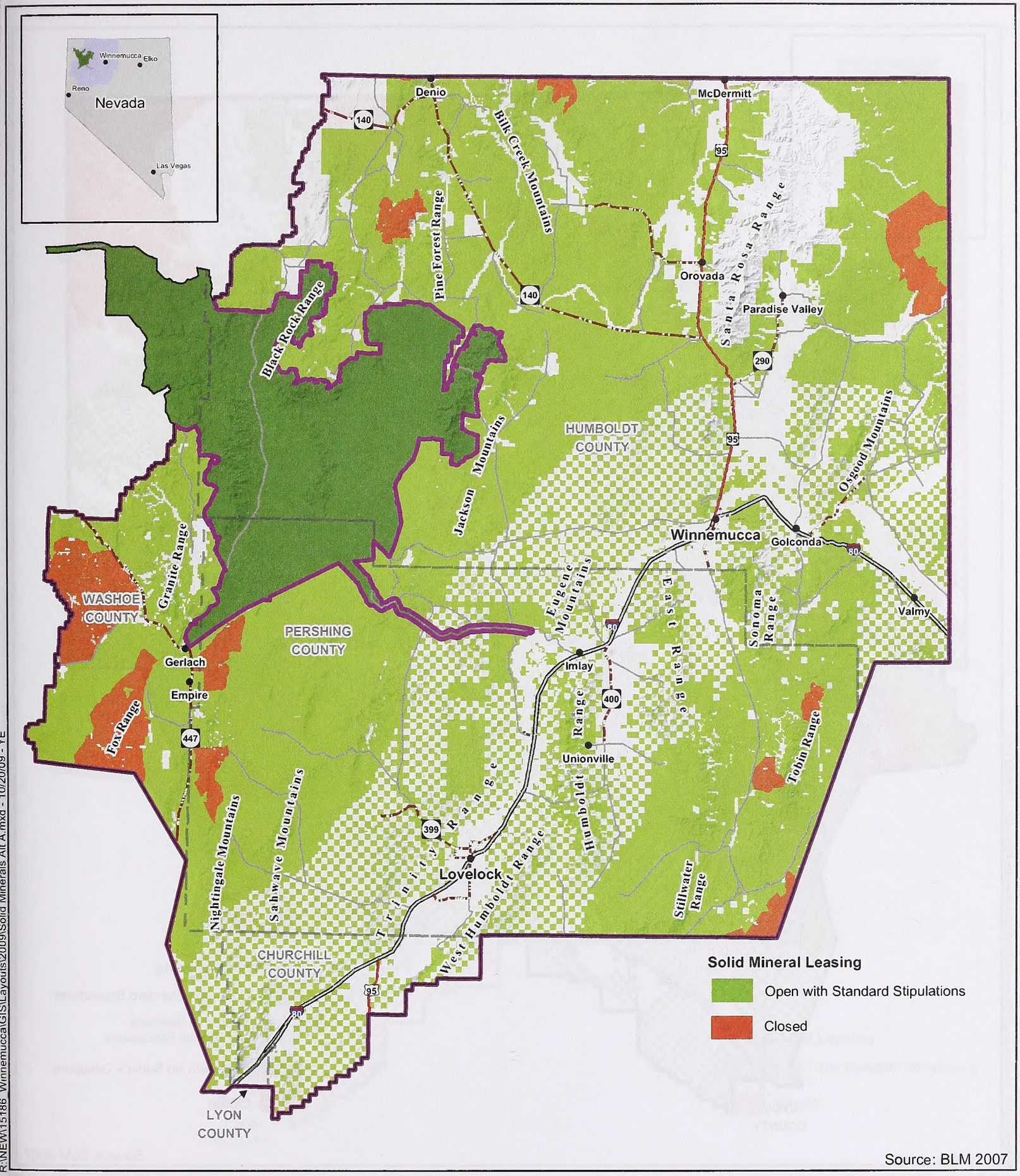
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-44



Source: BLM 2007

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Winnemucca District Office RMP
Availability of Areas under the Solid Mineral Leasing Laws - Alternative A

Legend

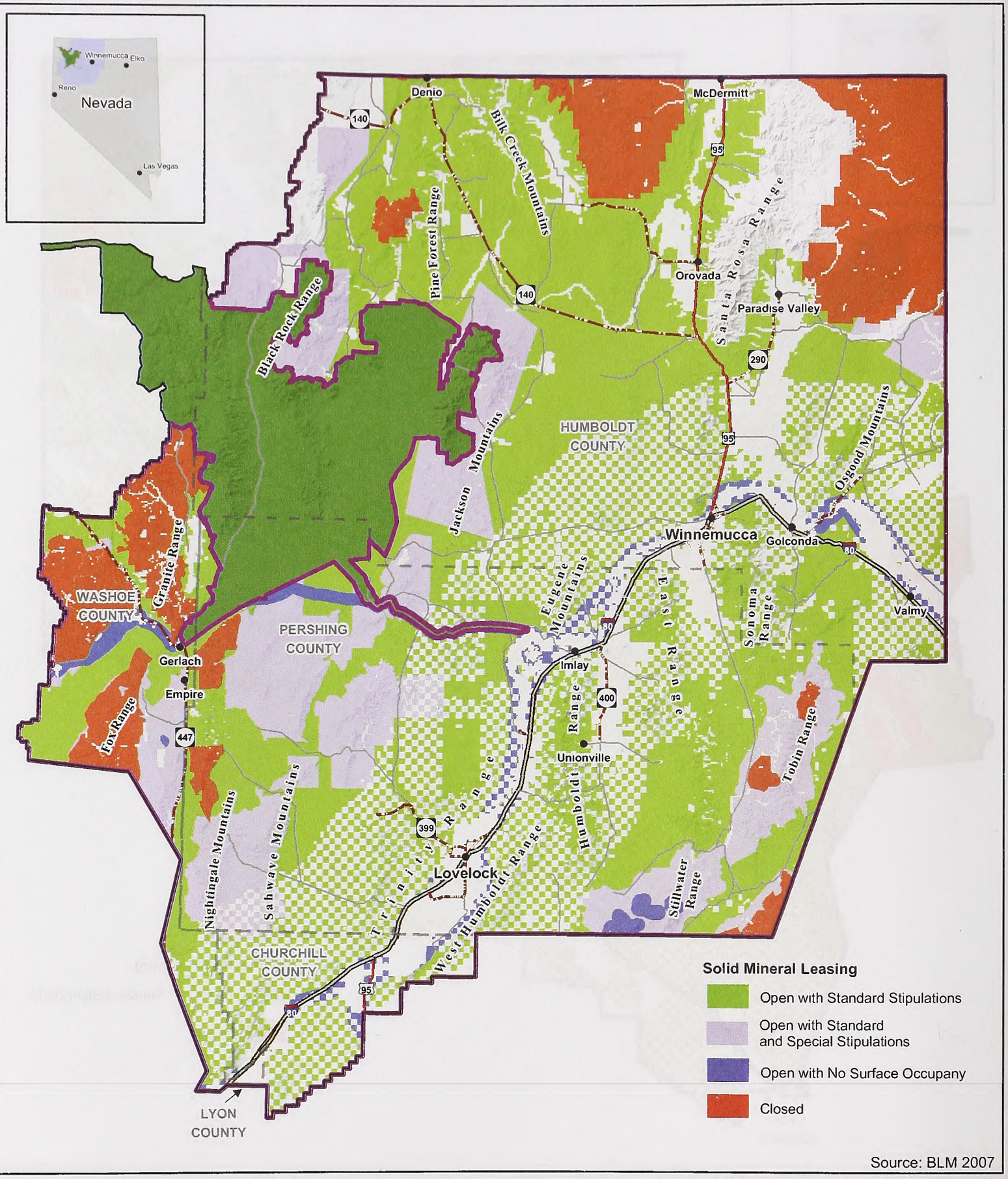
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-45



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Solid Minerals Alt B.mxd - 12/05/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Solid Mineral Leasing Laws - Alternative B

Legend

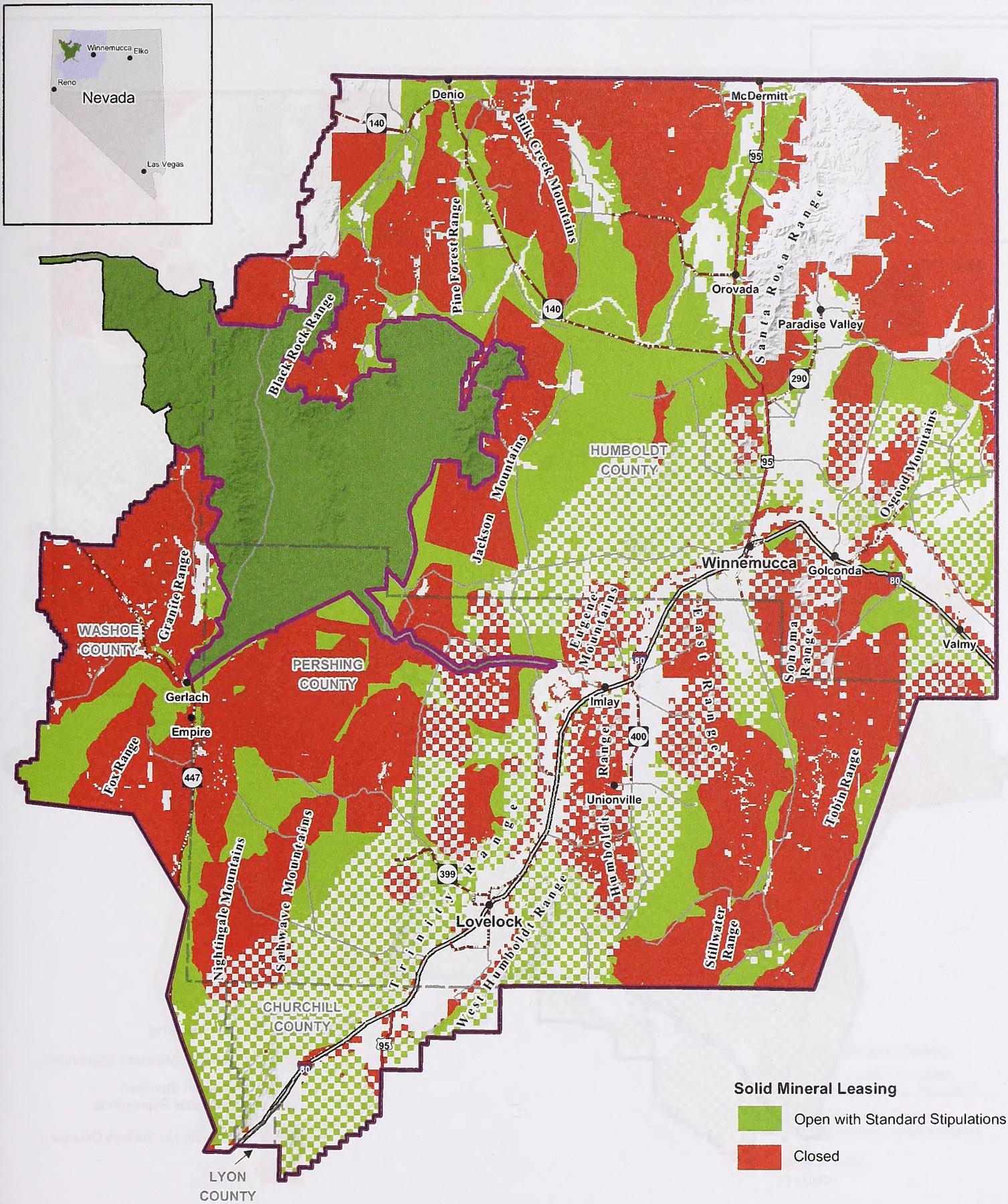
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-46



Source: BLM 2007

R:\NEW\15186 Winnemucca\GIS\Layouts\2009\Solid Minerals Alt C.mxd - 12/05/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Solid Mineral Leasing Laws - Alternative C (Options 1 and 2)

Northwest Nevada

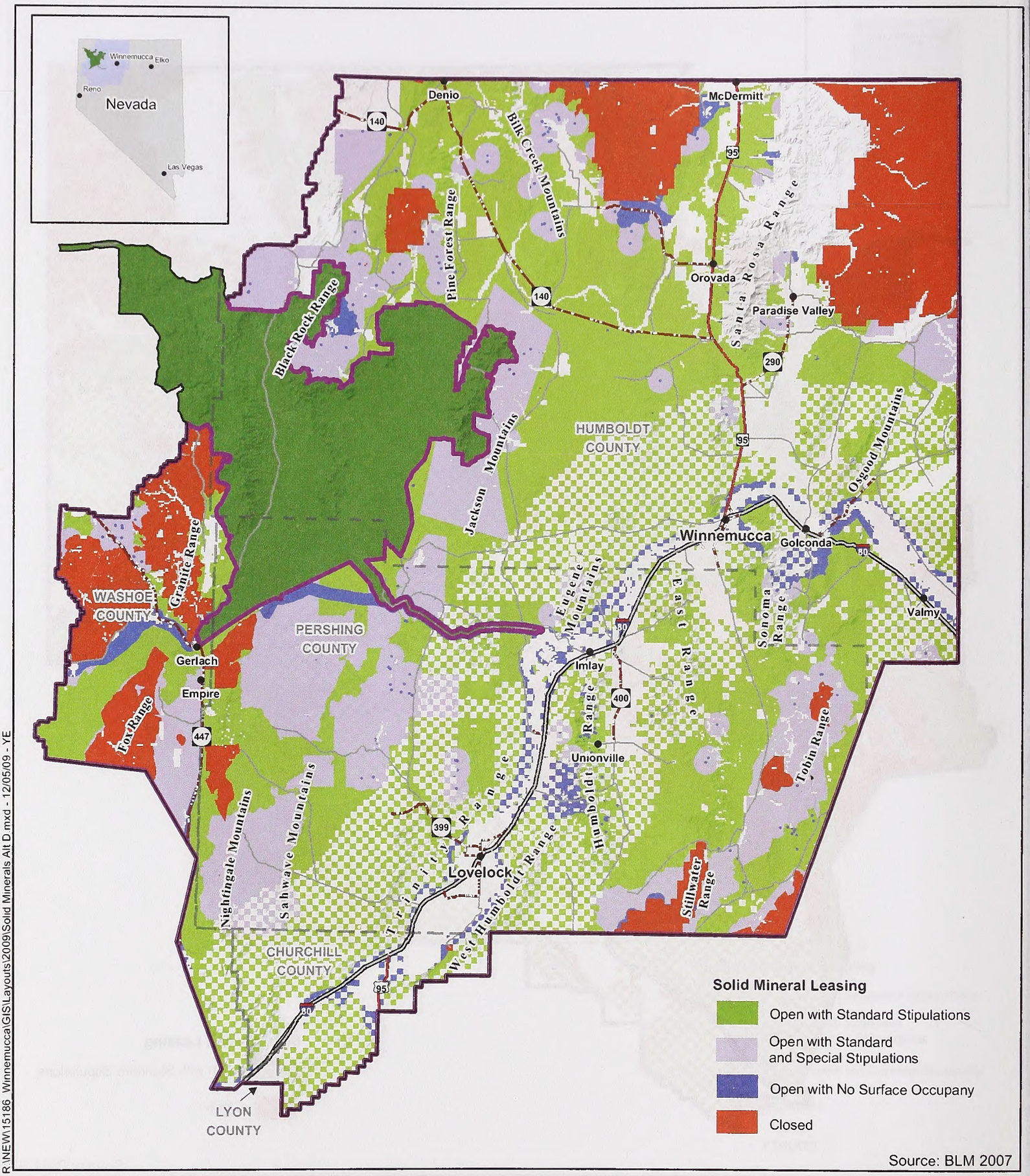
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-47



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Solid Minerals Alt D.mxd - 12/05/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the Solid Mineral Leasing Laws - Alternative D

Legend

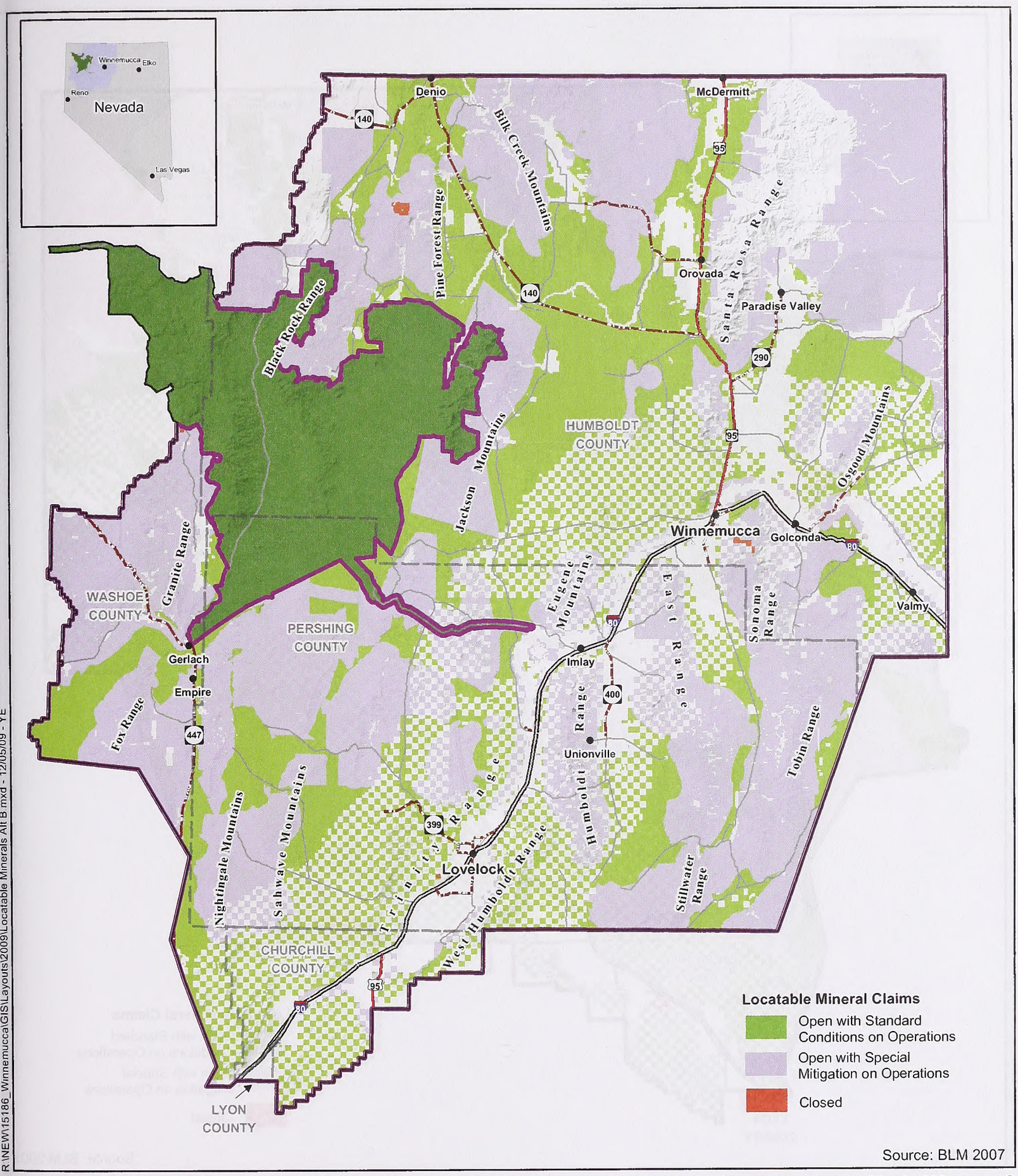
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-48



Source: BLM 2007

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Winnemucca District Office RMP, Availability of Areas under the General Mining Law of 1872 - Alternative B

Legend

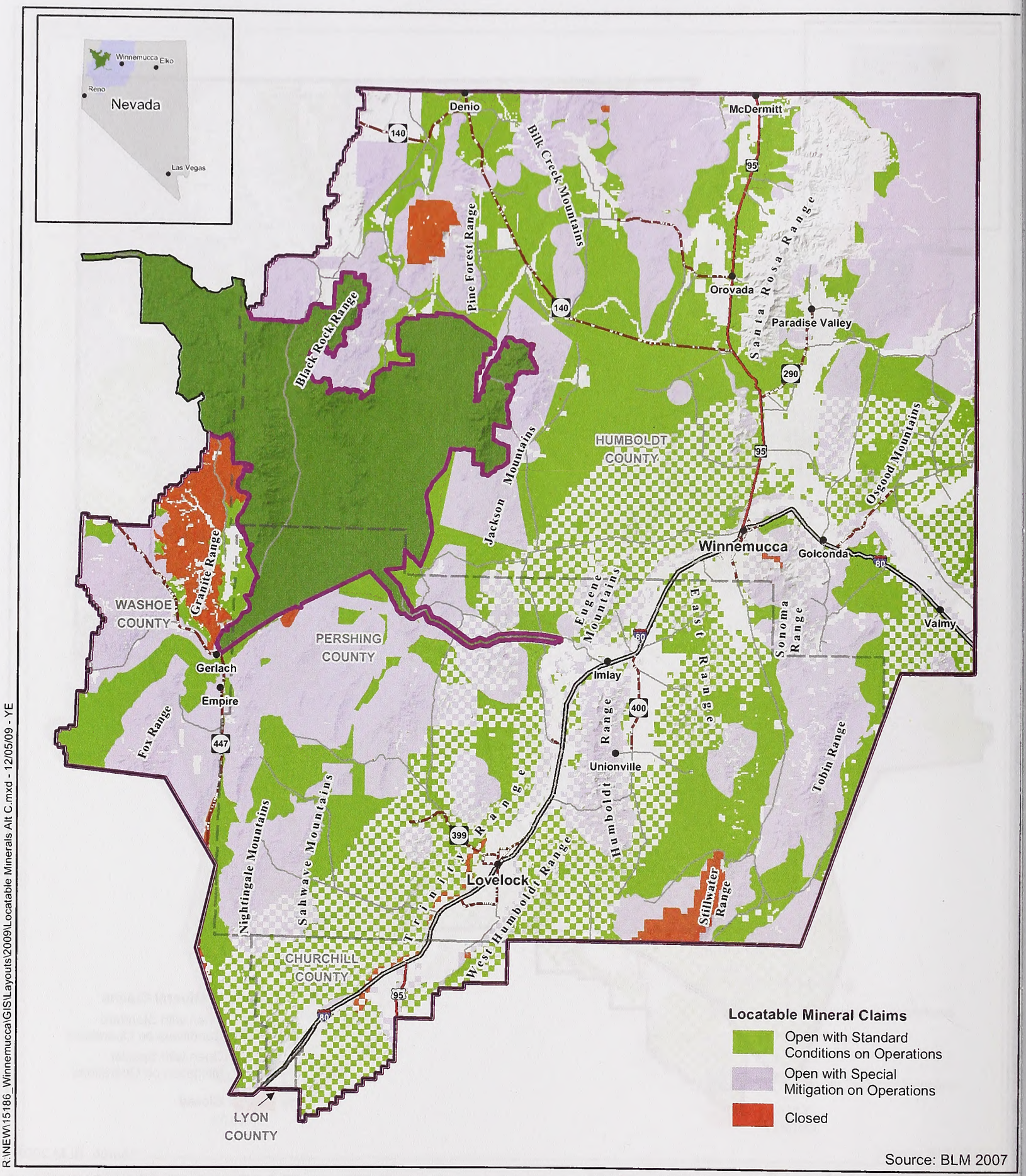
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Northwest Nevada

Figure 2-49



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Locatable Minerals Alt C.mxd - 12/05/09 - YE

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Winnemucca District Office RMP
Availability of Areas under the General Mining Law of 1872 - Alternative C (Options 1 and 2)

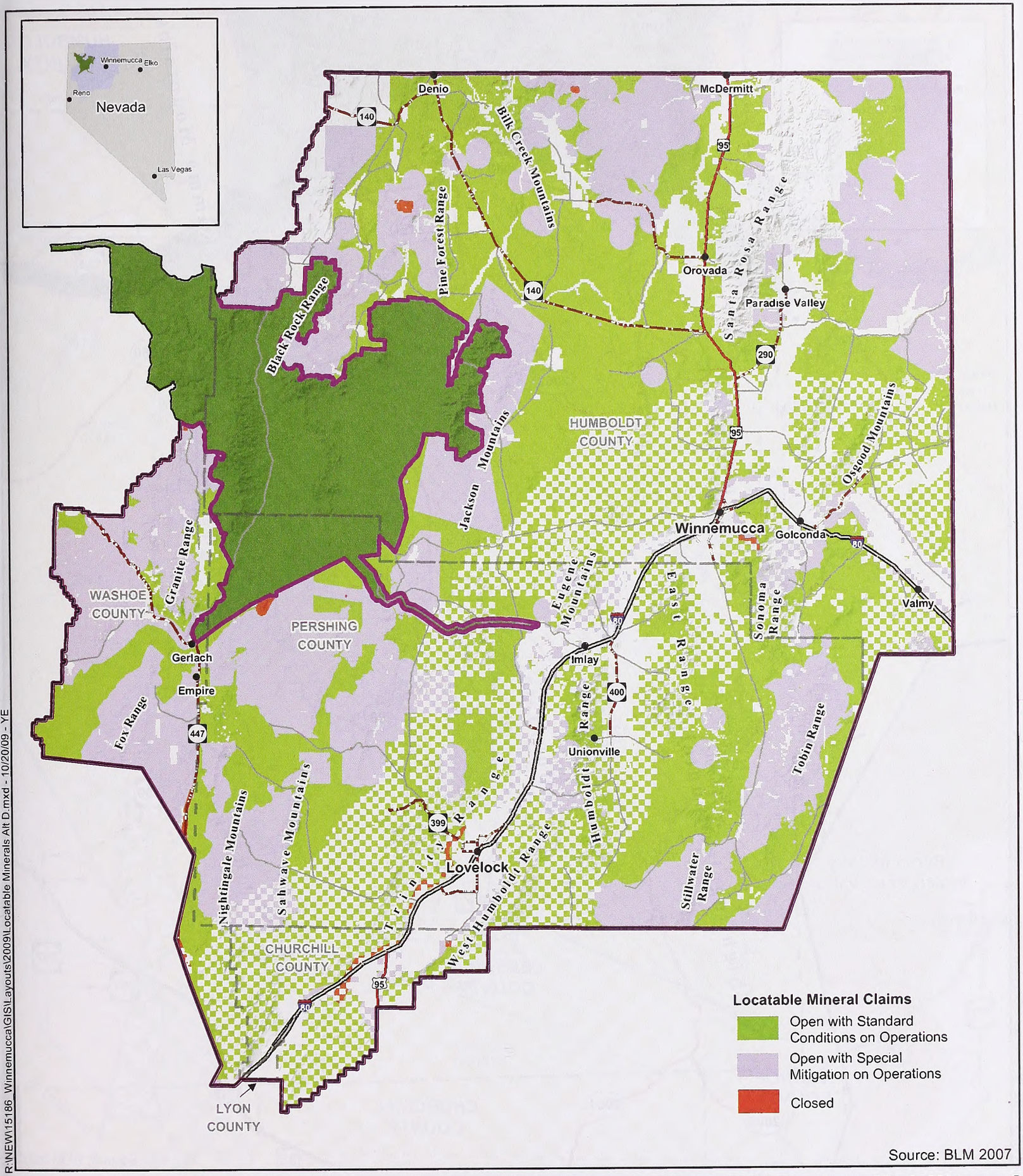
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Northwest Nevada

Figure 2-50



R:\NEW\15186_WinnemuccaGIS\Layouts\2009\Locatable Minerals Alt D.mxd - 10/20/09 - YE

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Winnemucca District Office RMP, Availability of Areas under the General Mining Law of 1872 - Alternative D

Northwest Nevada

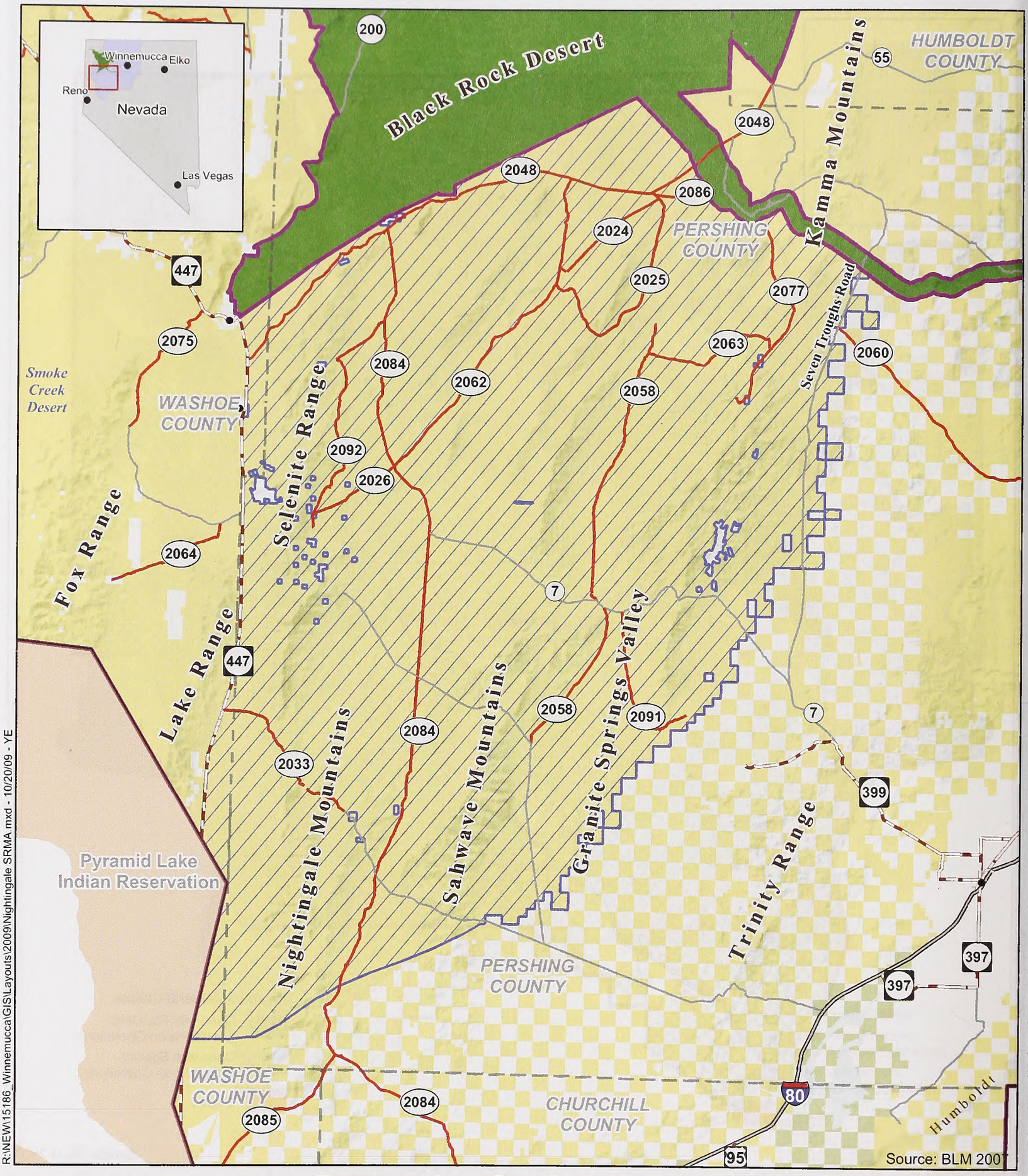
Figure 2-51

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Nightingale SRMA.mxd - 10/20/09 - YE

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Recreation Designations - Nightingale SRMA - Alternatives B & D

Legend

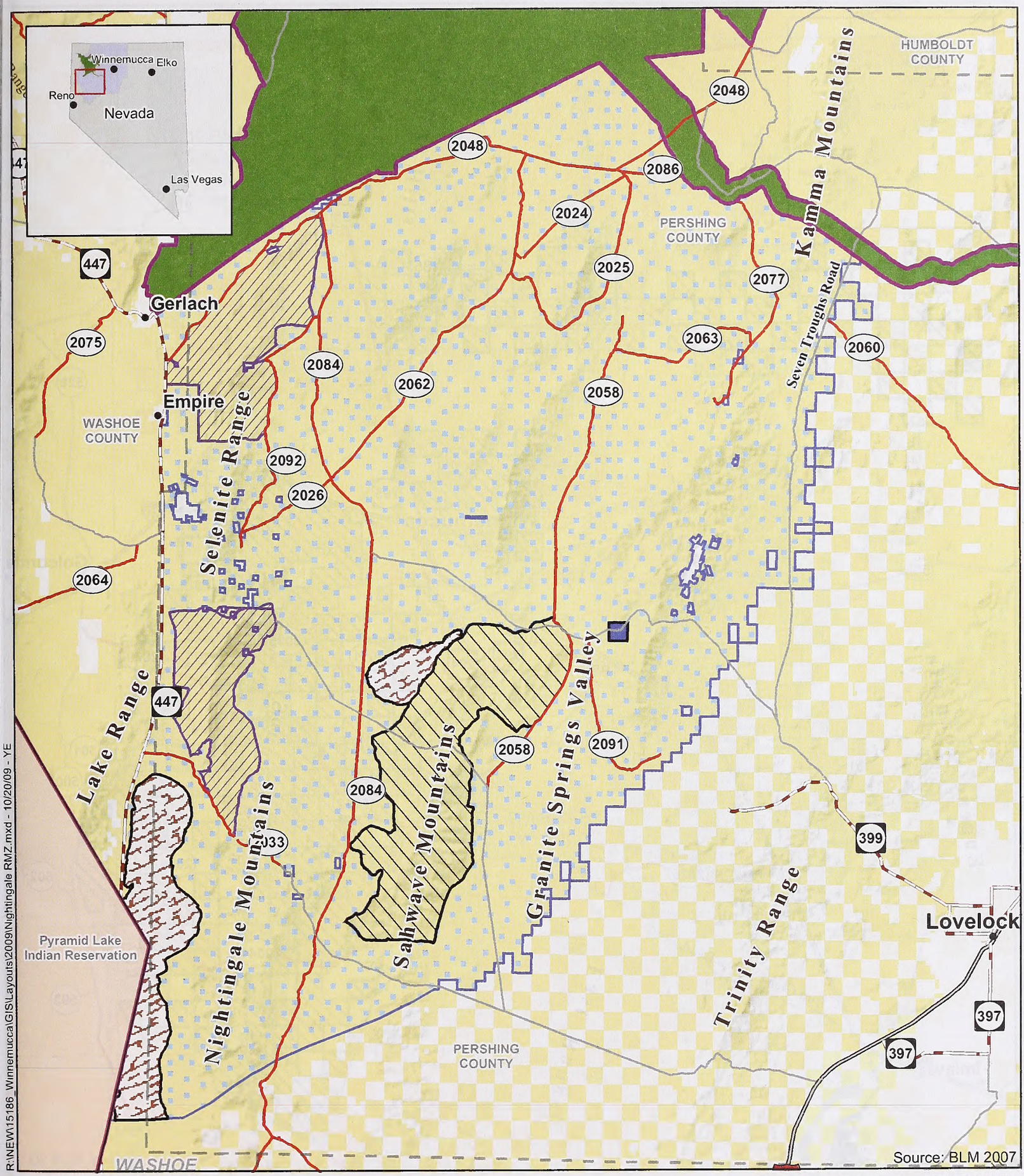
- Nightingale SRMA
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- BLM Road
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Water
- Private

N W E S

0 5 Miles

Northwest Nevada

Figure 2-52



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Nightingale RMZ.mxd - 10/20/09 - YE

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Legend

- Nightingale RMZ Zone 1
- Nightingale RMZ Zone 2
- Nightingale RMZ Zone 3
- Nightingale RMZ Zone 4
- Nightingale RMZ Zone 5
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Water
- Private
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- BLM Road
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries

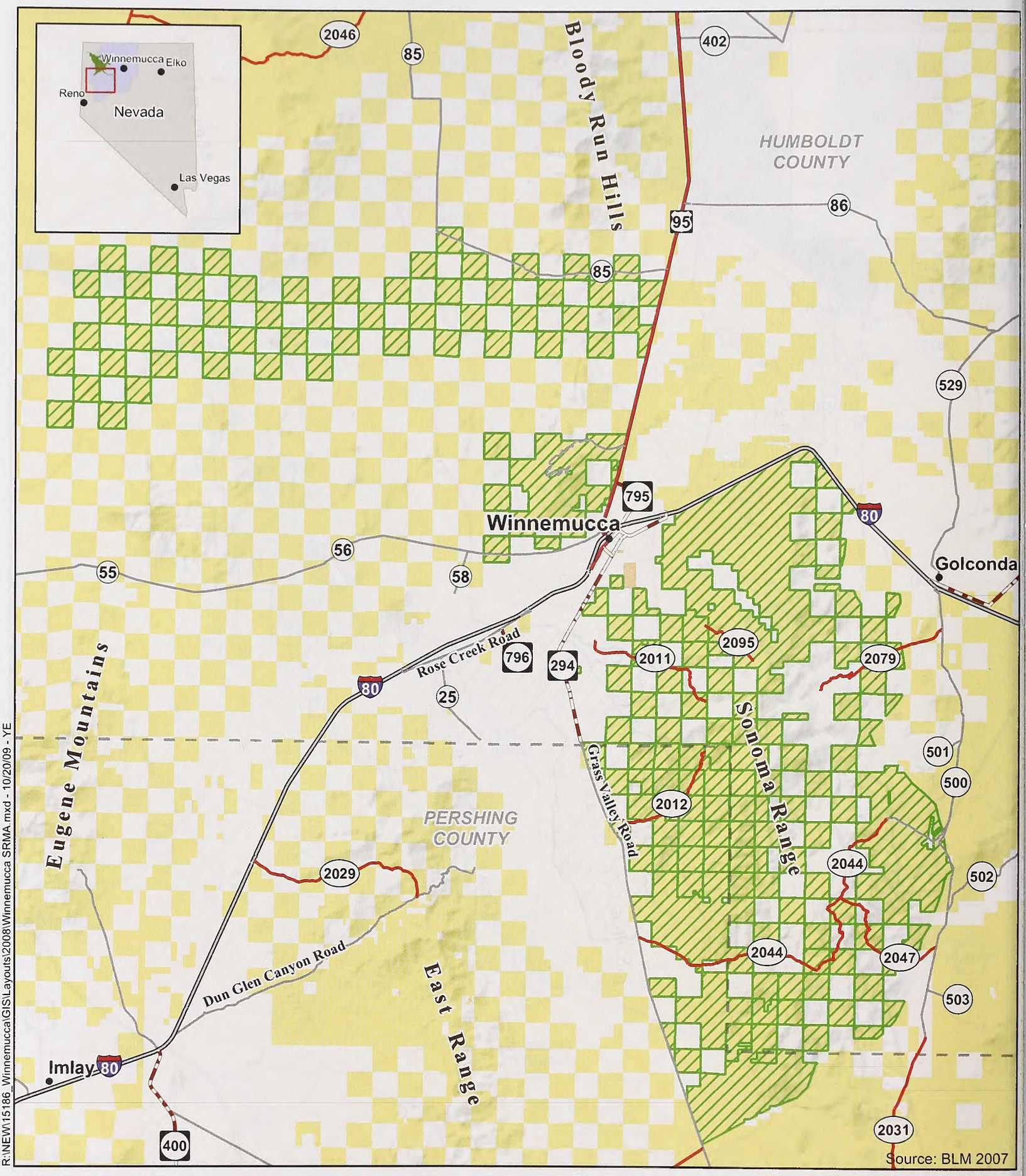
N W E S

0 2.5 5 Miles

Nightingale SRMA - Recreation Management Zones (RMZs) - Alternatives B & D

Northwest Nevada

Figure 2-53



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2008\Winnemucca SRMA.mxd - 10/20/09 - YE

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N W E S

0 2 4 Miles

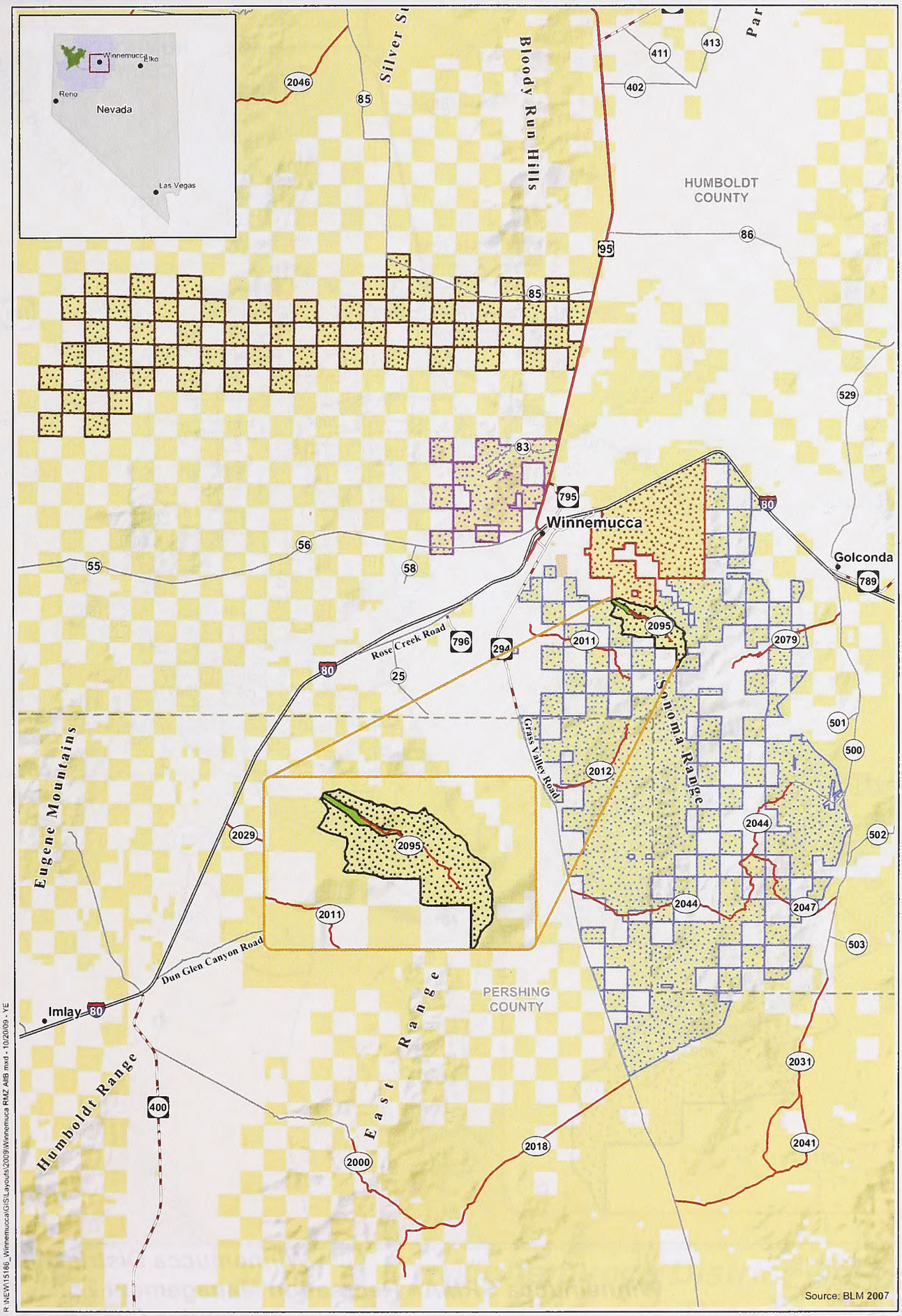
Legend

- Winnemucca SRMA
- County Boundaries
- Bureau of Indian Affairs
- Bureau of Land Management
- Private
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- BLM Road

Winnemucca District Office RMP
Winnemucca SRMA - Alternatives B & D

Northwest Nevada

Figure 2-54



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Winnemuca RMZ Alt B.mxd - 10/20/09 - YE

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Legend

- Bloody Shins RMZ
- Sonoma Range RMZ
- Winnemucca Mountain RMZ
- Winnemucca Sand Dunes RMZ
- Water Canyon RMZ Zone 1
- Water Canyon RMZ Zone 2
- County Boundaries
- Bureau of Indian Afairs
- Bureau of Land Management
- Private
- Towns
- County Road
- State Highway
- U.S. Highway
- U.S. Interstate
- BLM Road

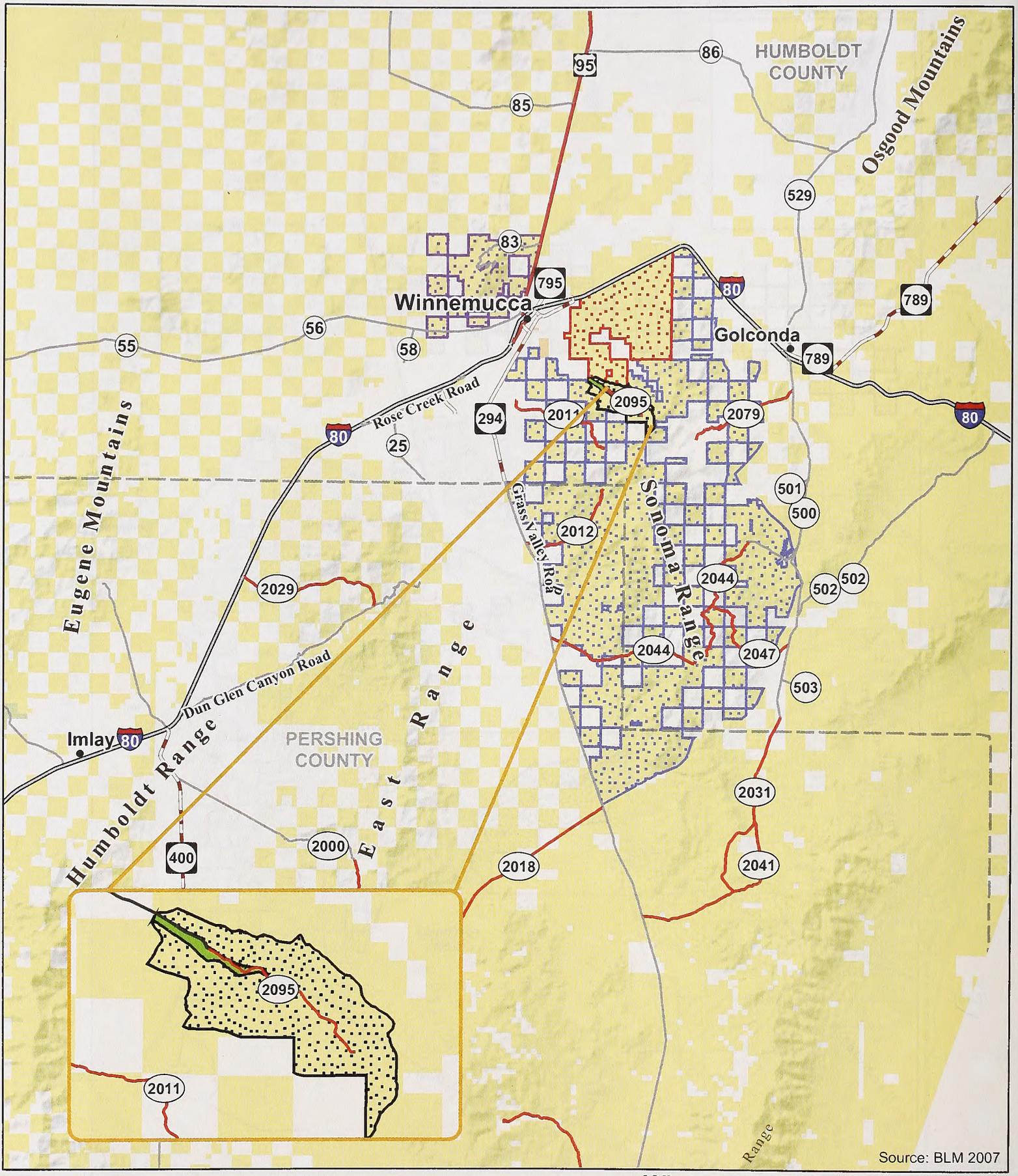
N W E S

0 2 4 Miles

Winnemucca SRMA - Recreation Management Zones (RMZs) - Alternatives B & D

Northwest Nevada

Figure 2-55



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Winnemuca RMZ AltCD.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Winnemucca SRMA - Recreation Management Zones (RMZs) - Alternative C (Options 1 and 2)

Legend

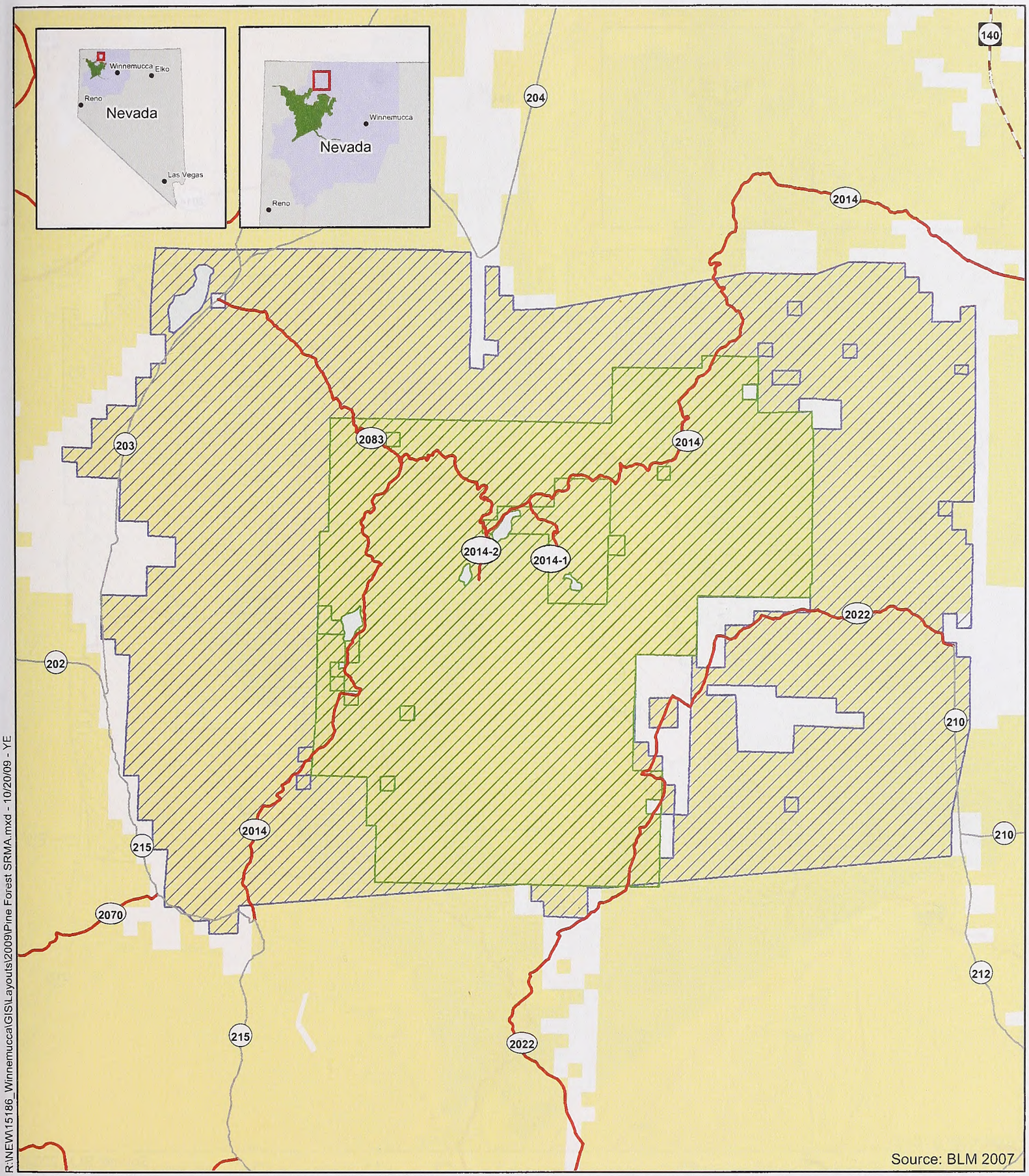
- Bloody Shins RMZ
- Sonoma Range RMZ
- Winnemucca Mountain RMZ
- Water Canyon RMZ Zone 1
- Towns
- Water Canyon RMZ Zone 2
- County Boundaries
- Bureau of Indian Afairs
- Bureau of Land Management
- Private
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway
- City Road
- BLM Road

N W E S

0 2 4 Miles

Northwest Nevada

Figure 2-56



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Pine Forest SRMA.mxd - 10/20/09 - YE

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Winnemucca District Office RMP
Pine Forest SRMA

Legend

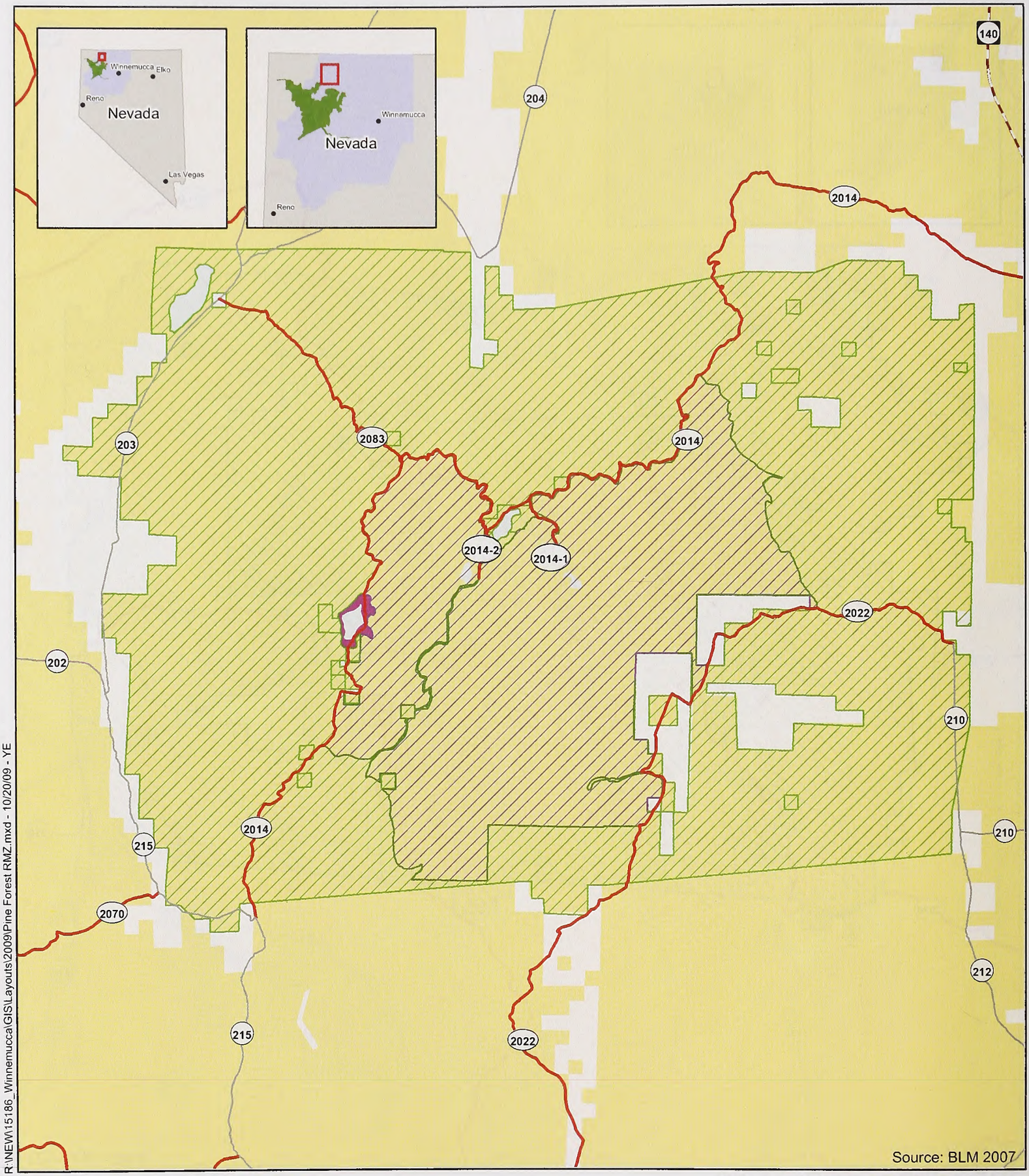
- Bureau of Land Management
- Private
- Water
- Pine Forest Alternatives B, C & D
- Pine Forest Alternative A
- BLM Road
- County Road
- State Highway

N W E S

0 1.5 3 Miles

Northwest Nevada

Figure 2-57



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Pine Forest RMZ.mxd - 10/20/09 - YE

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Pine Forest SRMA - Recreation Management Zones (RMZs) - Alternatives B-D

N
W E
S

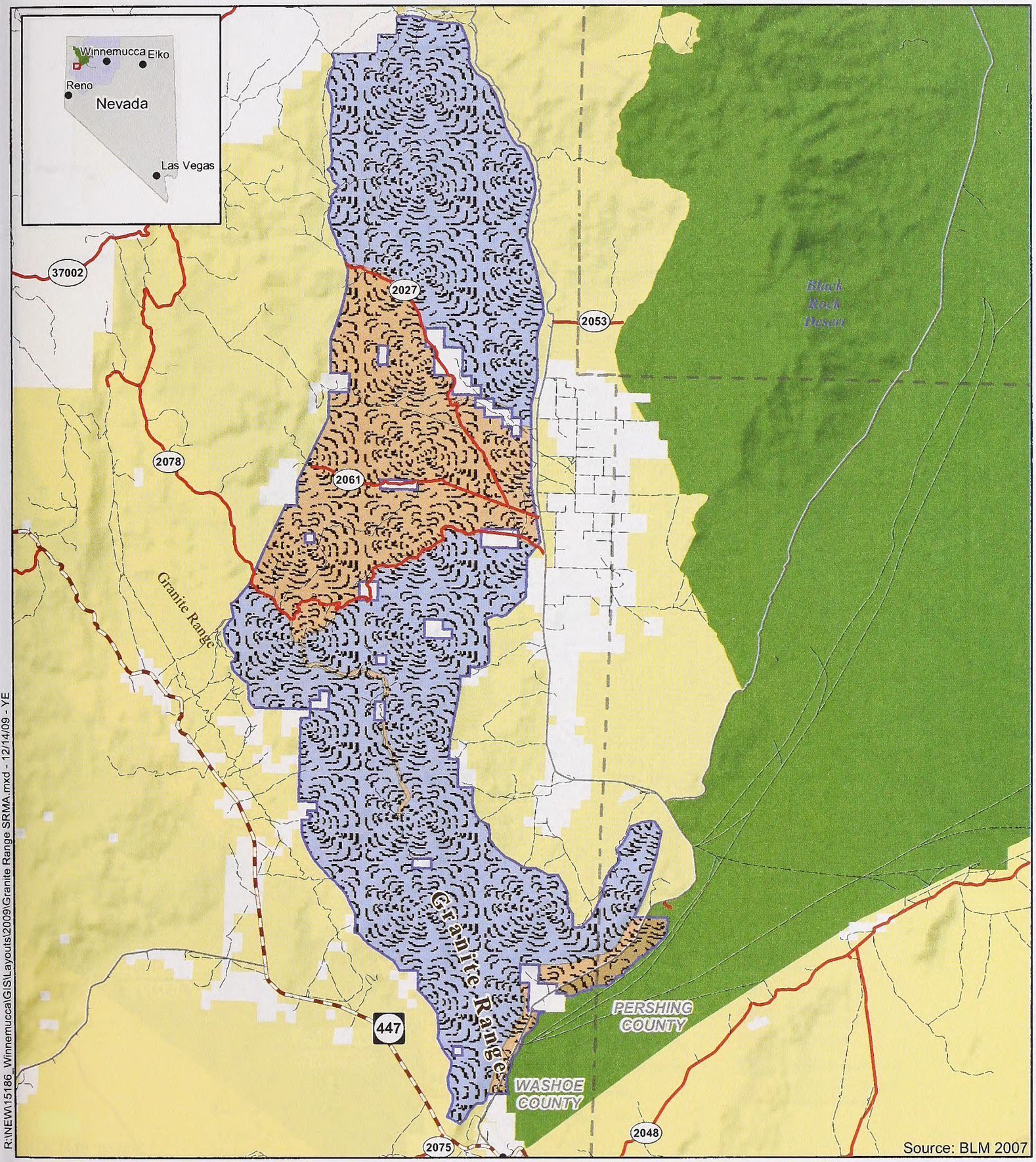
0 1.5 3 Miles

Legend

- Pine Forest Creeks RMZ
- Pine Forest Lakes RMZ
- Knott Creek Reservoir RMZ
- Bureau of Land Management
- Private
- Water
- BLM Road
- County Road
- State Highway

Northwest Nevada

Figure 2-58



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Granite Range SRMA.mxd - 12/14/09 - YE

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Recreation Designations - Granite Range SRMA - Alternatives B & D

Legend

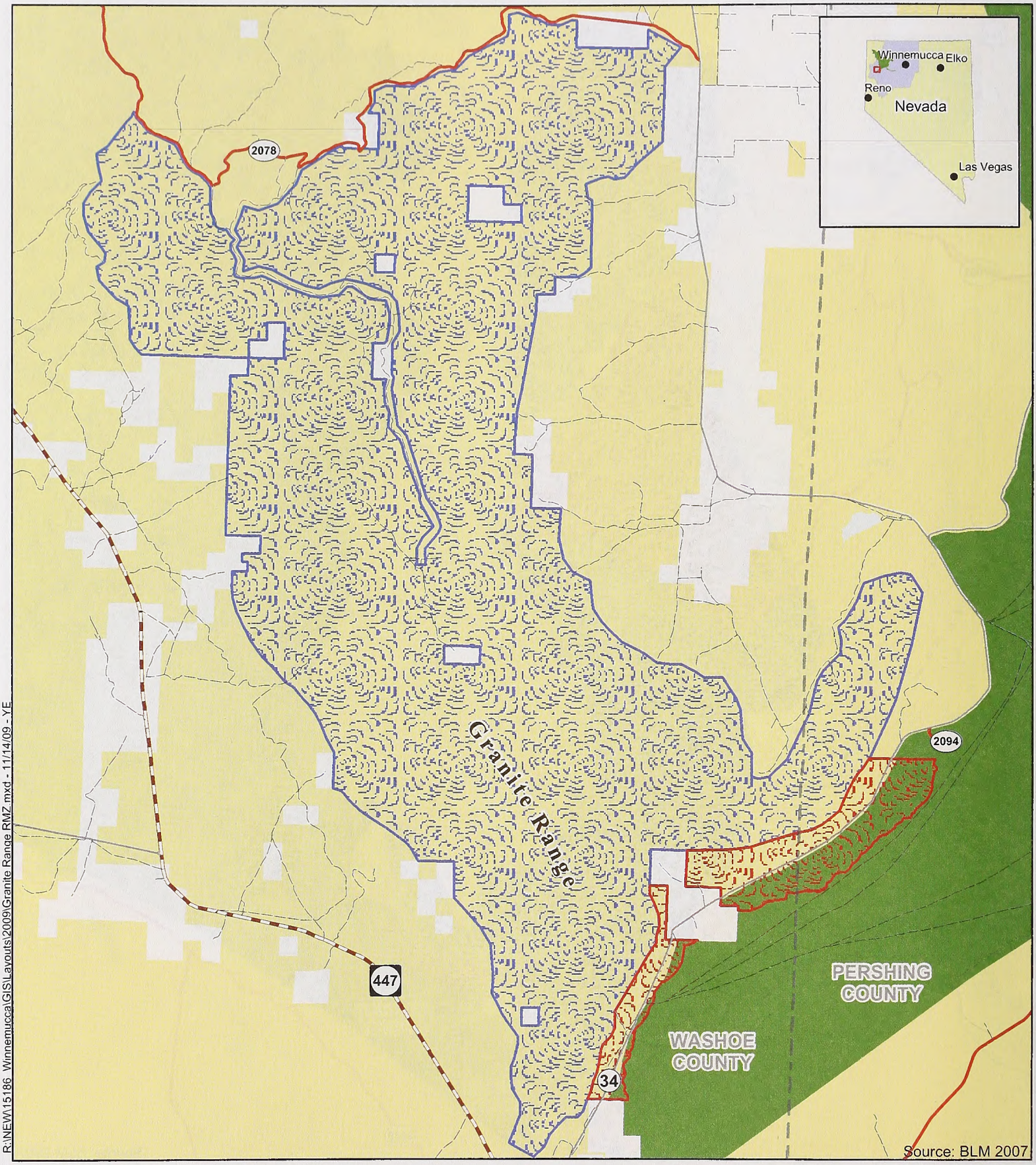
- Granite Range SRMA
- RMZ Zone 1
- RMZ Zone 2
- Black Rock/High Rock NCA RMP Planning Area Lands
- County Boundary
- Bureau of Land Management
- Private
- BLM Road
- County Road
- Other Dirt Roads
- State Highway

N W E S

0 1.5 3 Miles

Northwest Nevada

Figure 2-59



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Granite Range RMZ.mxd - 11/14/09 - YE

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Granite Range SRMA - Recreation Management Zones (RMZs) - Alternatives B & D

Northwest Nevada

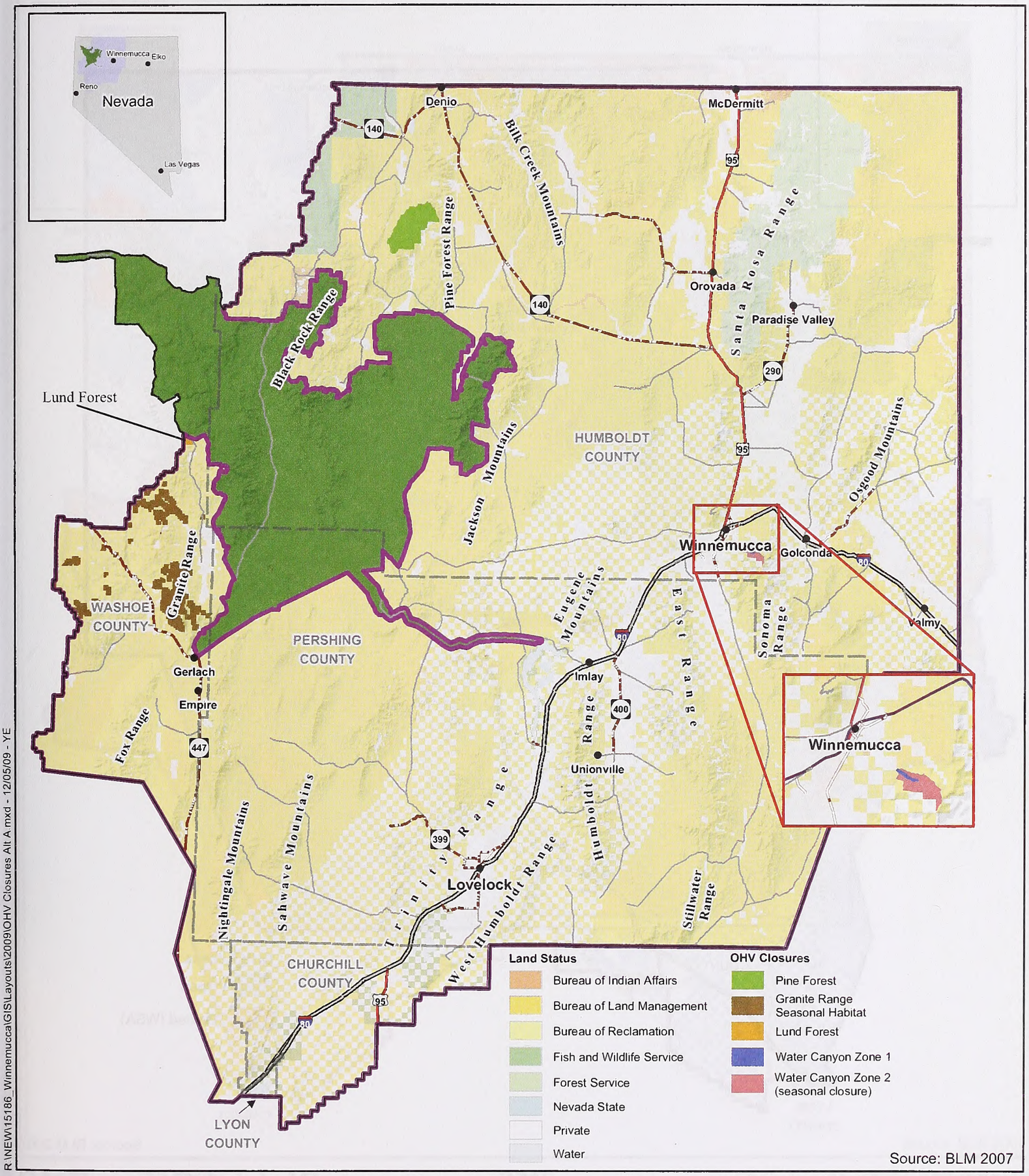
Legend

- Granite Foothills RMZ
- Granite Range RMZ
- Black Rock/High Rock NCA RMP Planning Area Lands
- County Boundary
- BLM Road
- County Road
- Other Dirt Roads
- State Highway
- Bureau of Land Management
- Private
- Towns

N W E S

0 1 2 Miles

Figure 2-60



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\OHV Closures Alt A.mxd - 12/05/09 - YE

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

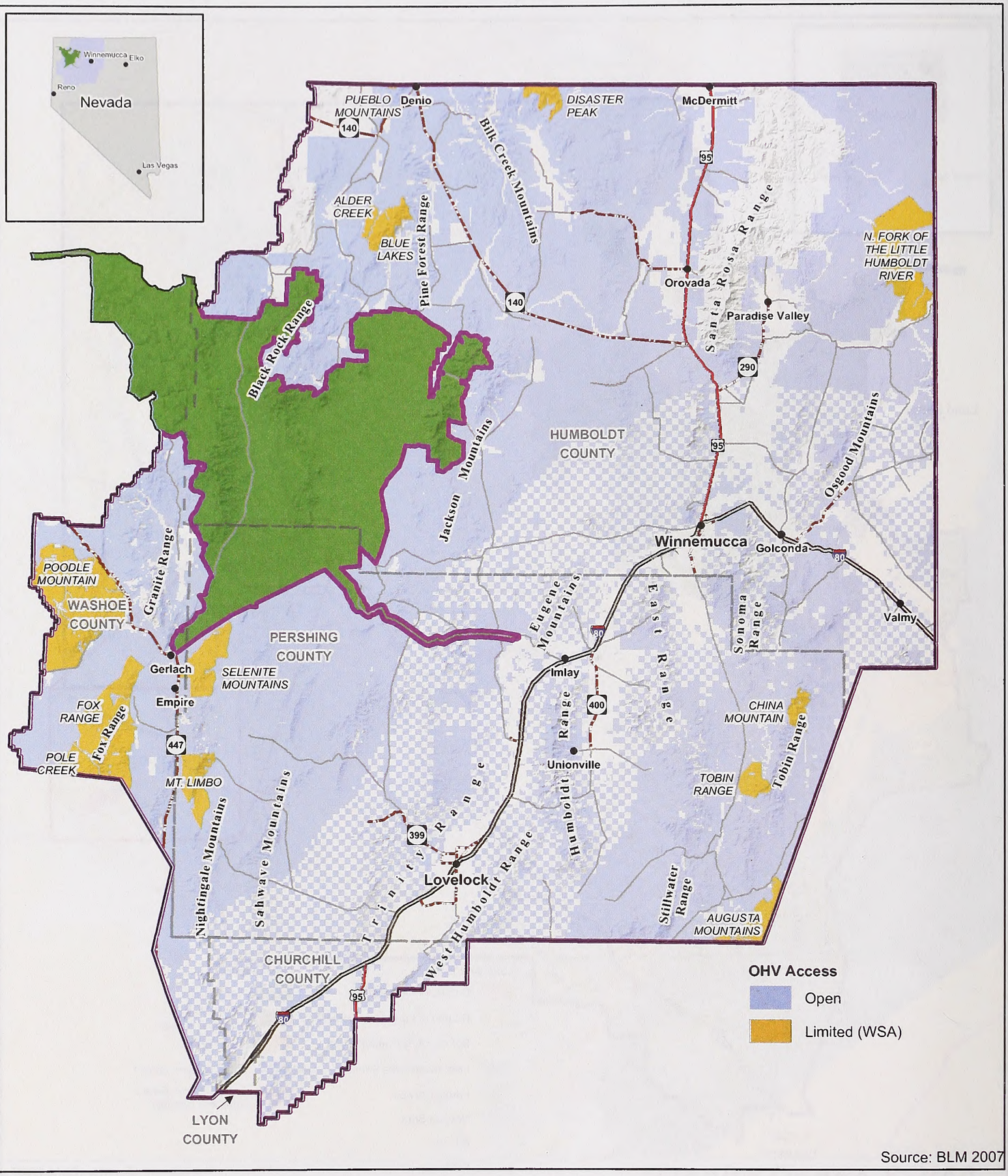
N W E S

0 10 20 Miles

Winnemucca District Office RMP OHV Closures - Alternatives A & B

Northwest Nevada

Figure 2-61



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\OHV Alt A.mxd - 10/20/09 - YE

Source: BLM 2007

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

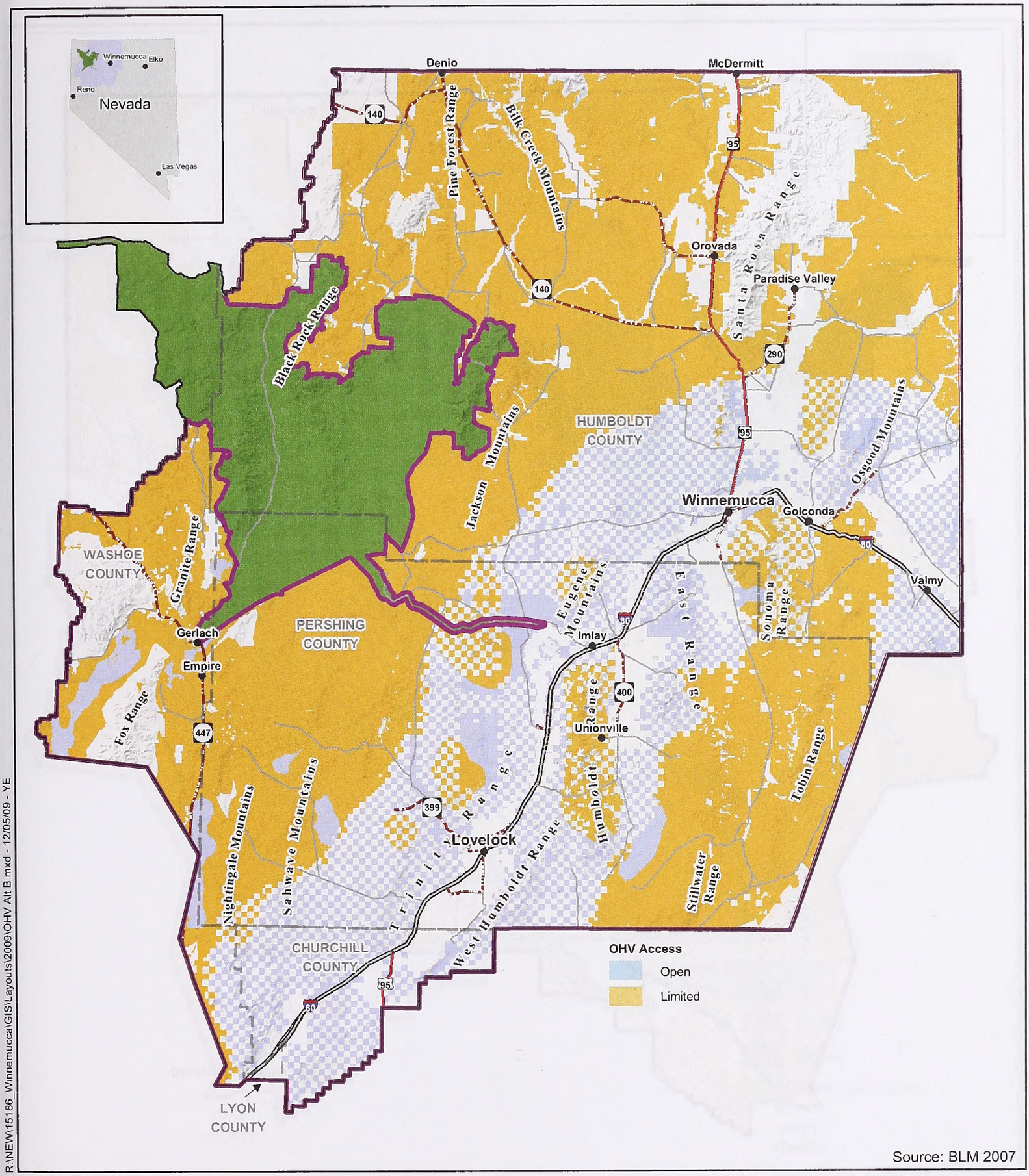
N W E S

0 10 20 Miles

Winnemucca District Office RMP OHV Access - Alternative A

Northwest Nevada

Figure 2-62



Source: BLM 2007

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Winnemucca District Office RMP OHV Access - Alternative B

Northwest Nevada

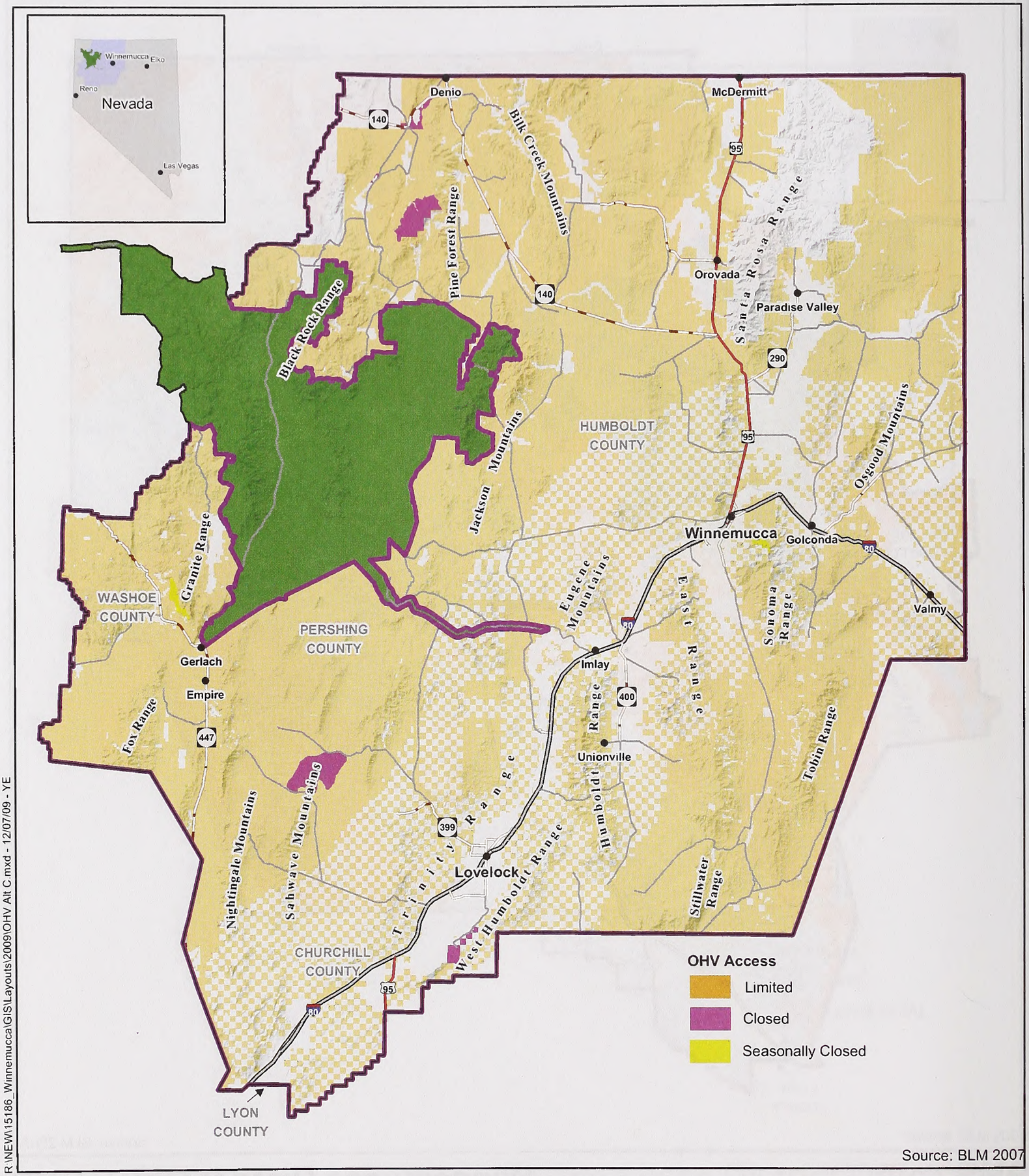
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-63



Source: BLM 2007

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N W E S

0 10 20 Miles

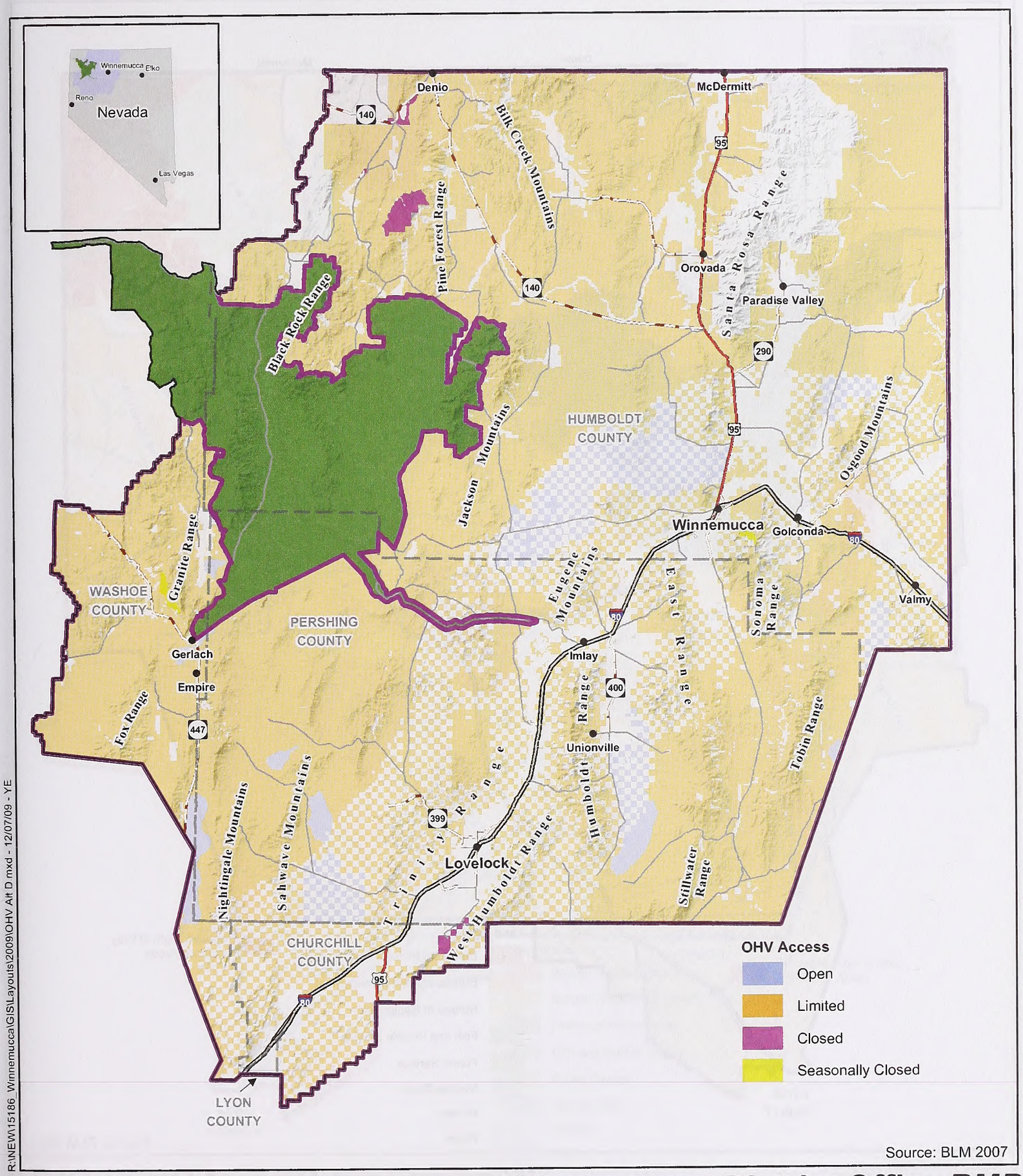
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

Winnemucca District Office RMP OHV Access - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-64



Source: BLM 2007

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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

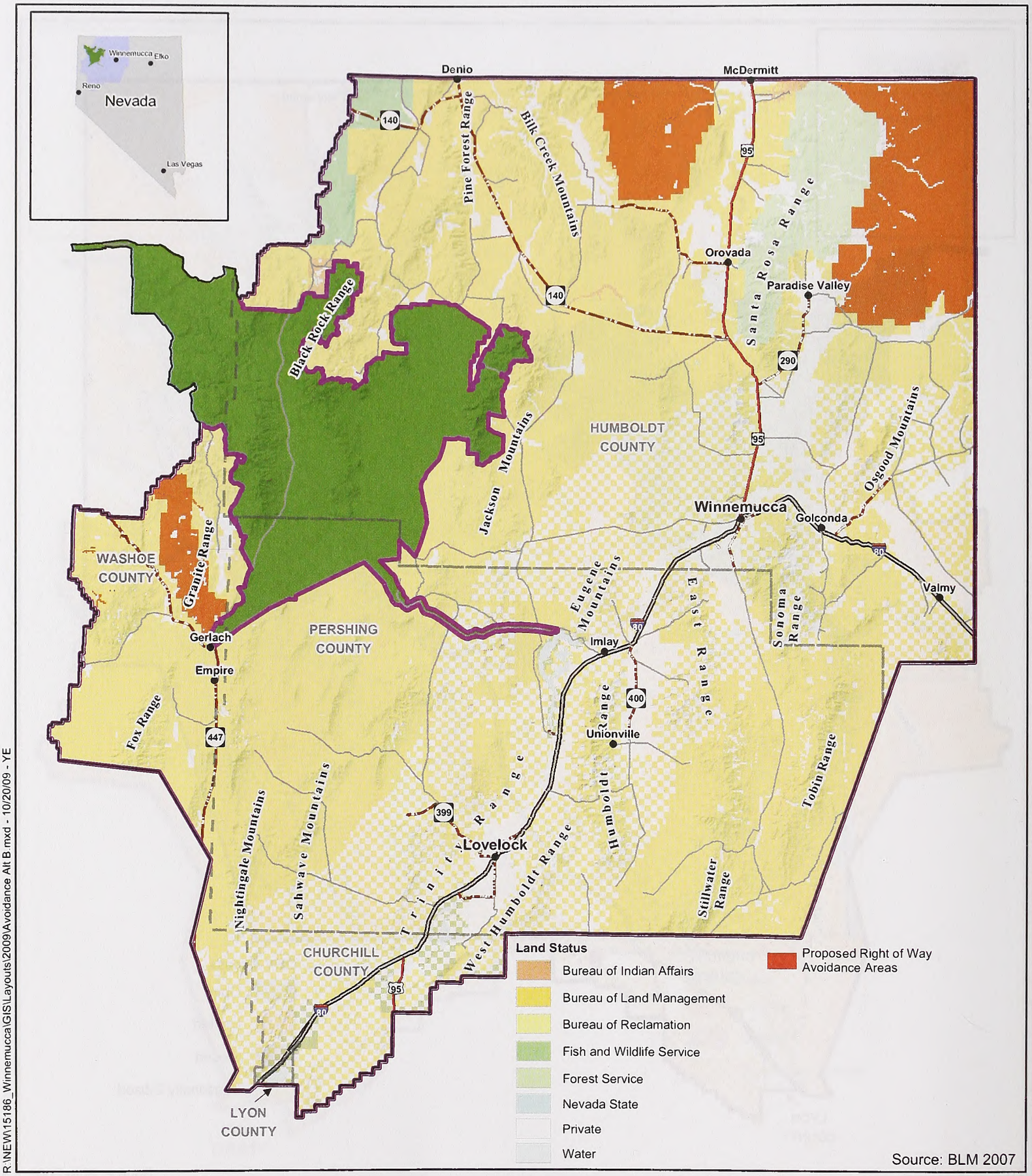
N W E S

0 10 20 Miles

Winnemucca District Office RMP OHV Access - Alternative D

Northwest Nevada

Figure 2-65



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Winnemucca District Office RMP Proposed Right of Way Avoidance Areas - Alternative B

Northwest Nevada

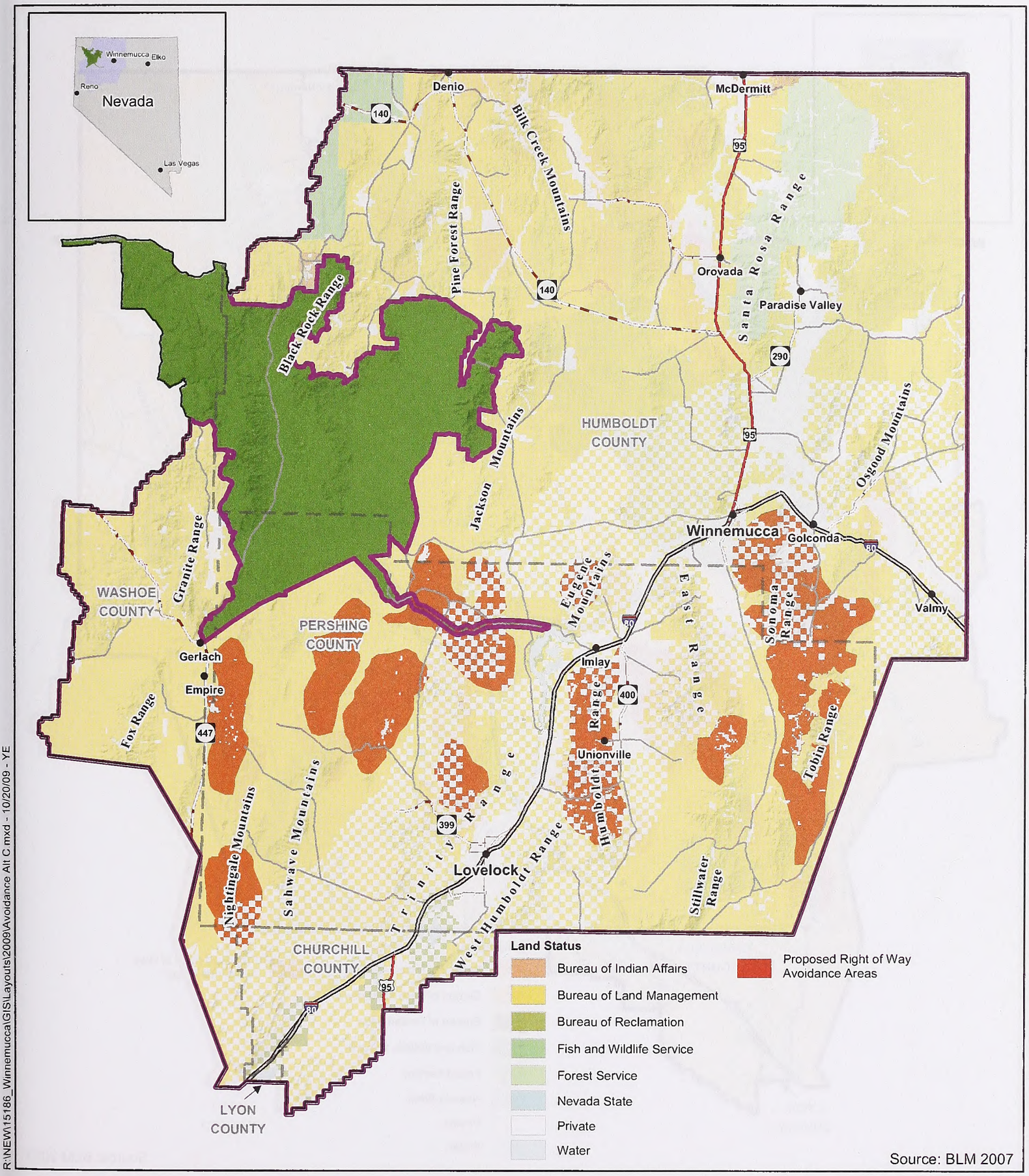
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-66



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Winnemucca District Office RMP
Proposed Right of Way Avoidance Areas - Alternative C (Options 1 and 2)

Northwest Nevada

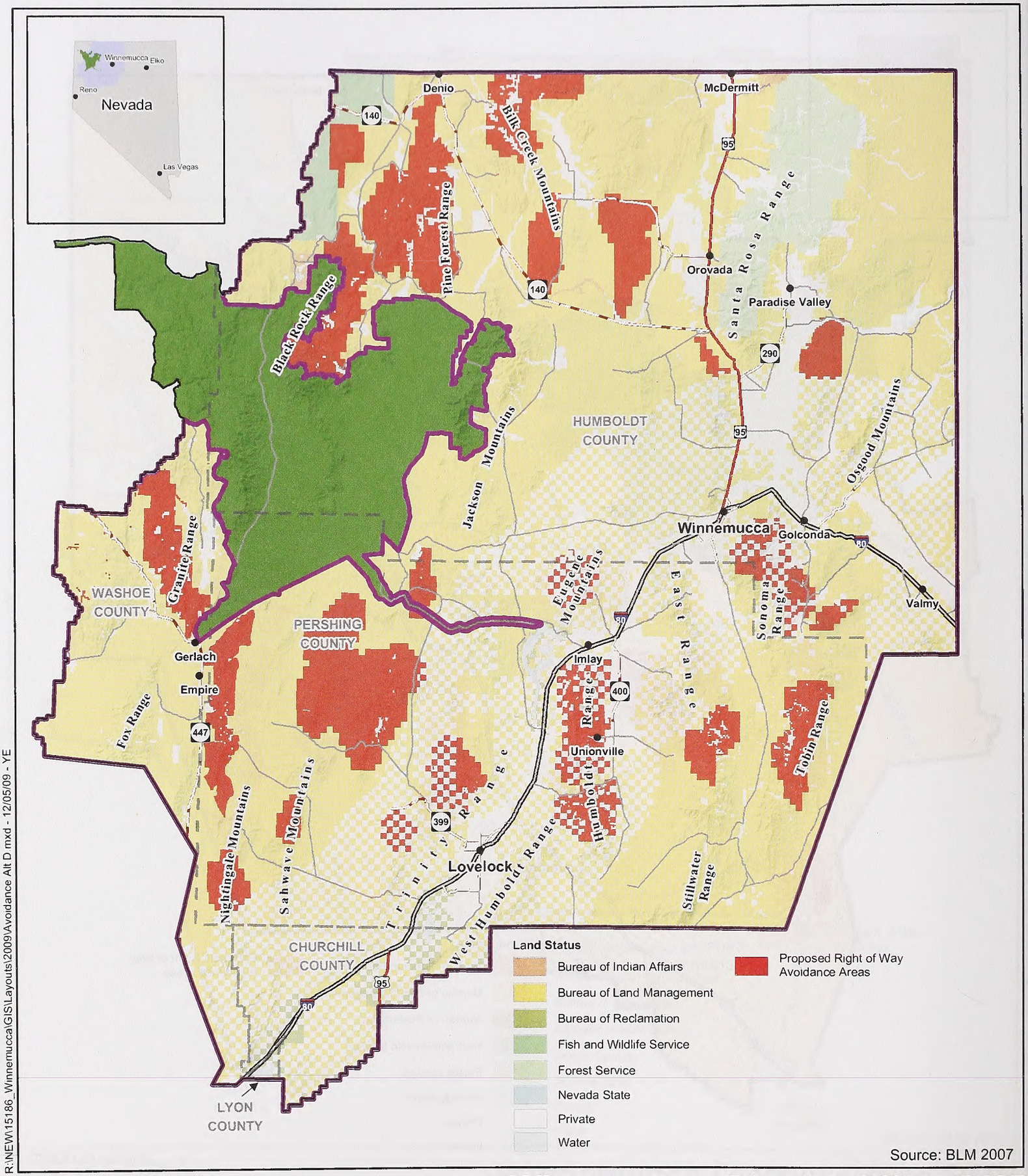
Figure 2-67

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



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Winnemucca District Office RMP
Proposed Right of Way Avoidance Areas - Alternative D

Northwest Nevada

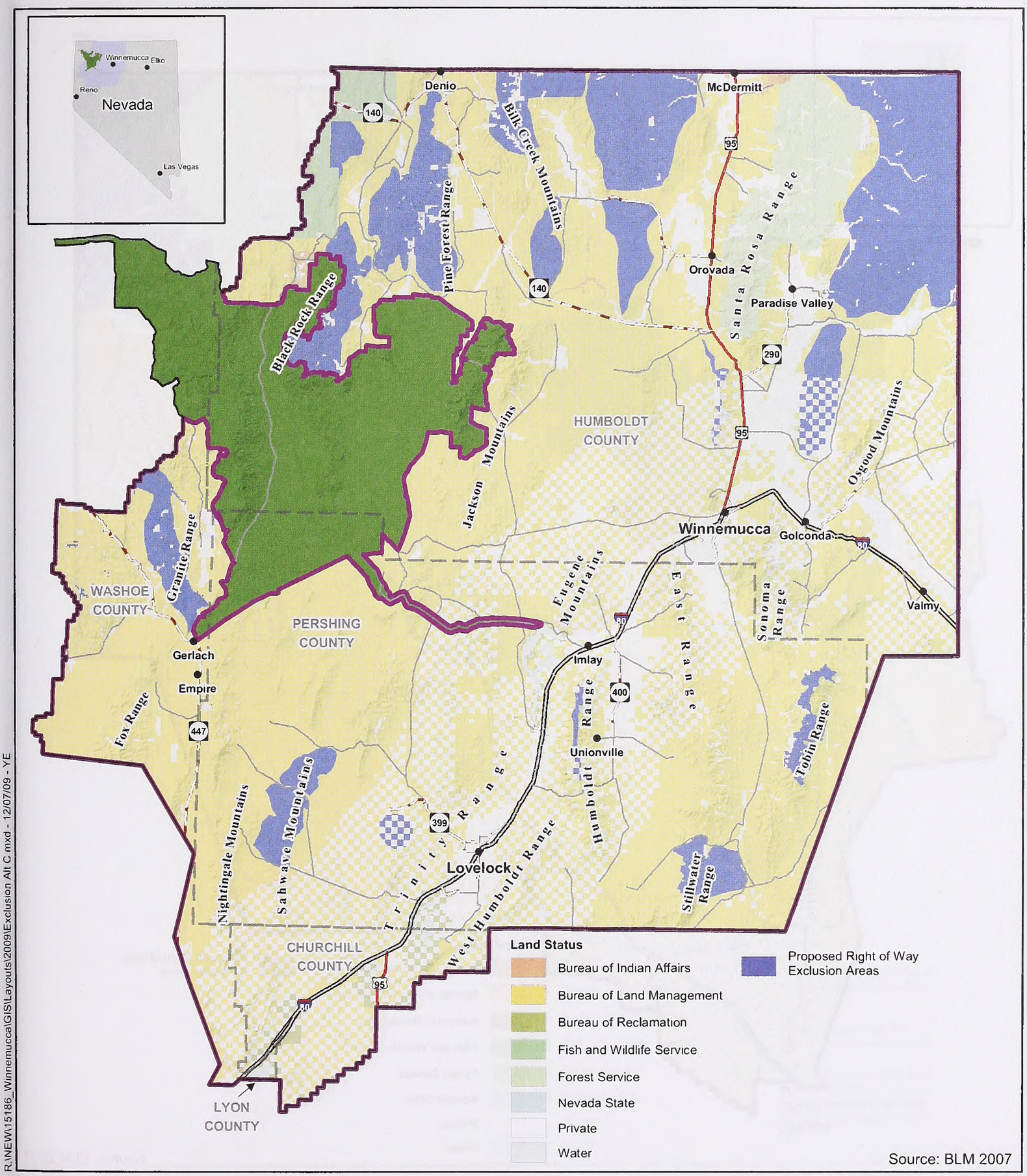
Figure 2-68

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Exclusion Alt C.mxd - 12/07/09 - YE

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Legend

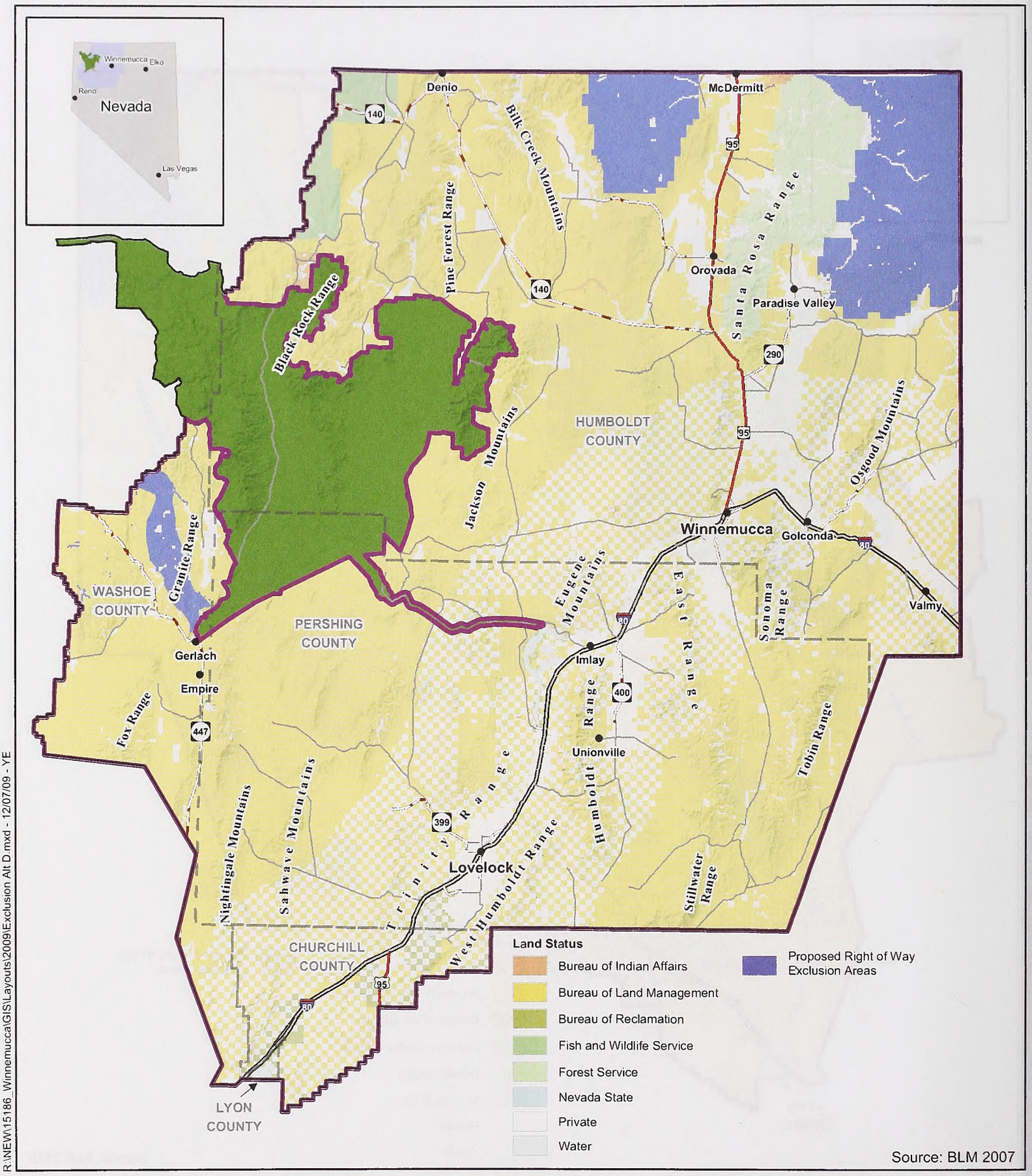
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Proposed Right of Way Exclusion Areas - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-69



R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Exclusion Alt D.mxd - 12/07/09 - YE

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Winnemucca District Office RMP Proposed Right of Way Exclusion Areas - Alternative D

Northwest Nevada

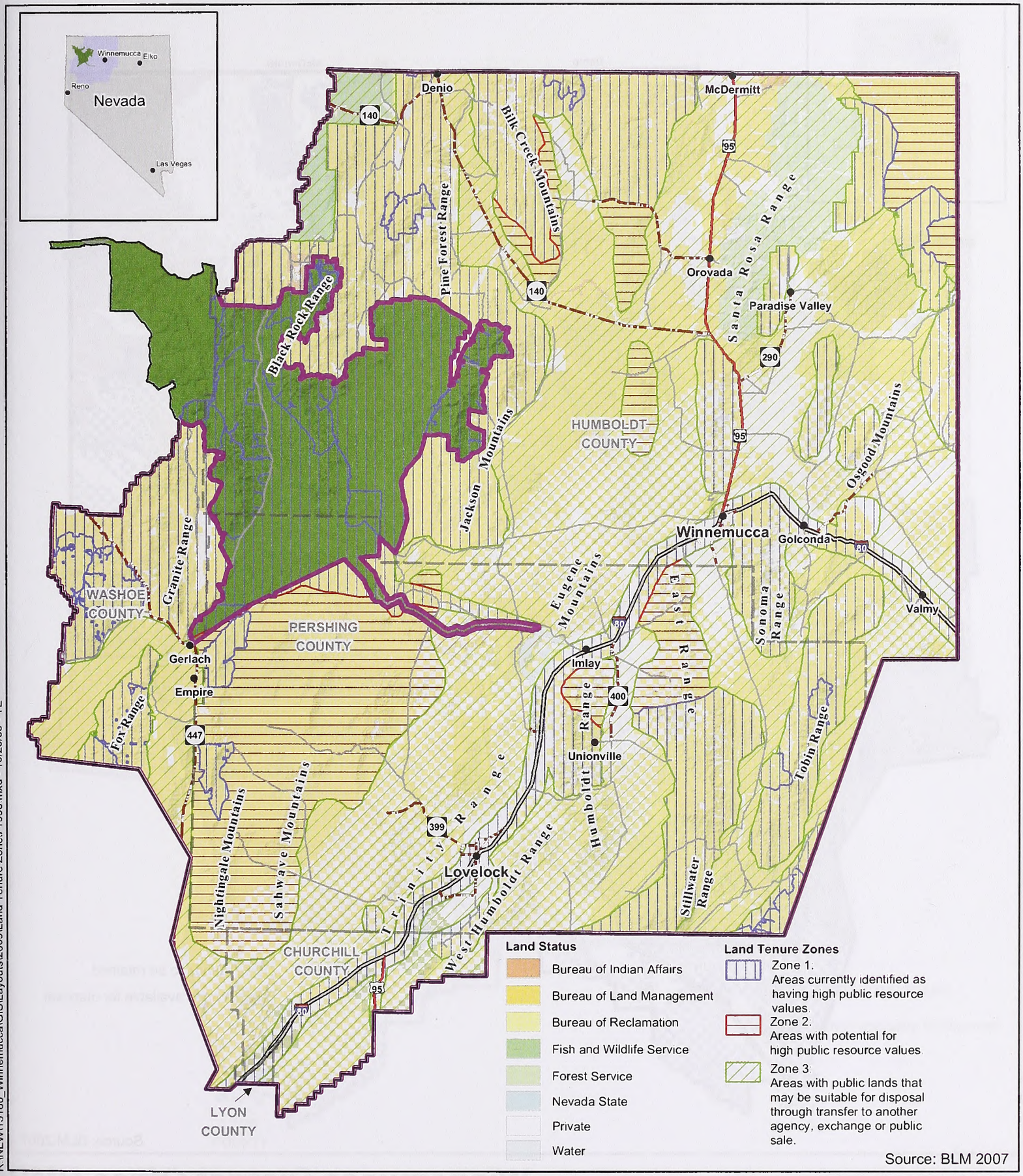
Figure 2-70

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

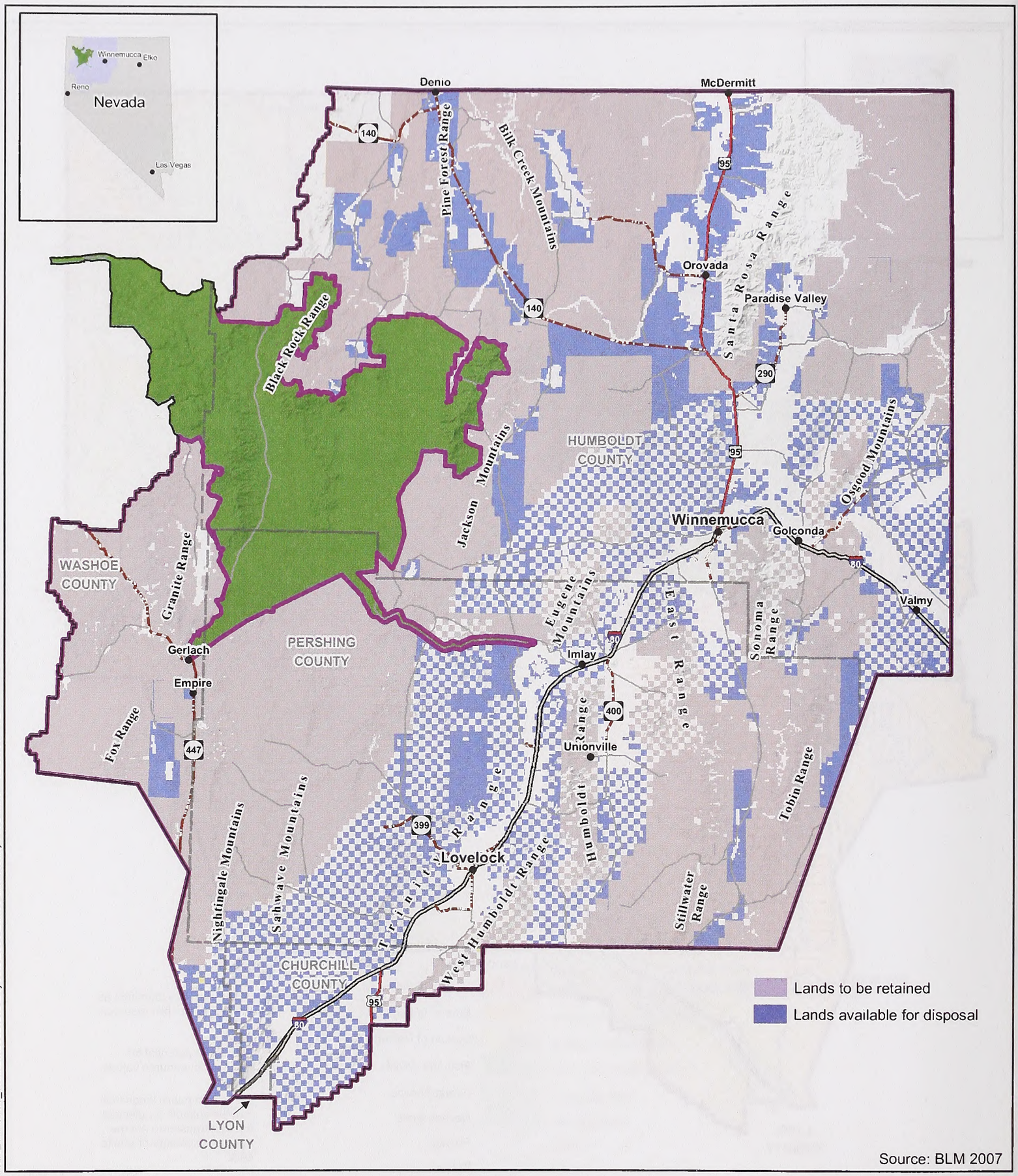
N W E S

0 10 20 Miles

Winnemucca District Office RMP Land Tenure Zones 1998 - Alternative A

Northwest Nevada

Figure 2-71



Source: BLM 2007

R:\NEW\15186_Winnemucca\GIS\Layouts\2009\Lands and Realty Alt B.mxd - 12/07/09 - YE

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Winnemucca District Office RMP Lands and Realty - Alternative B

Northwest Nevada

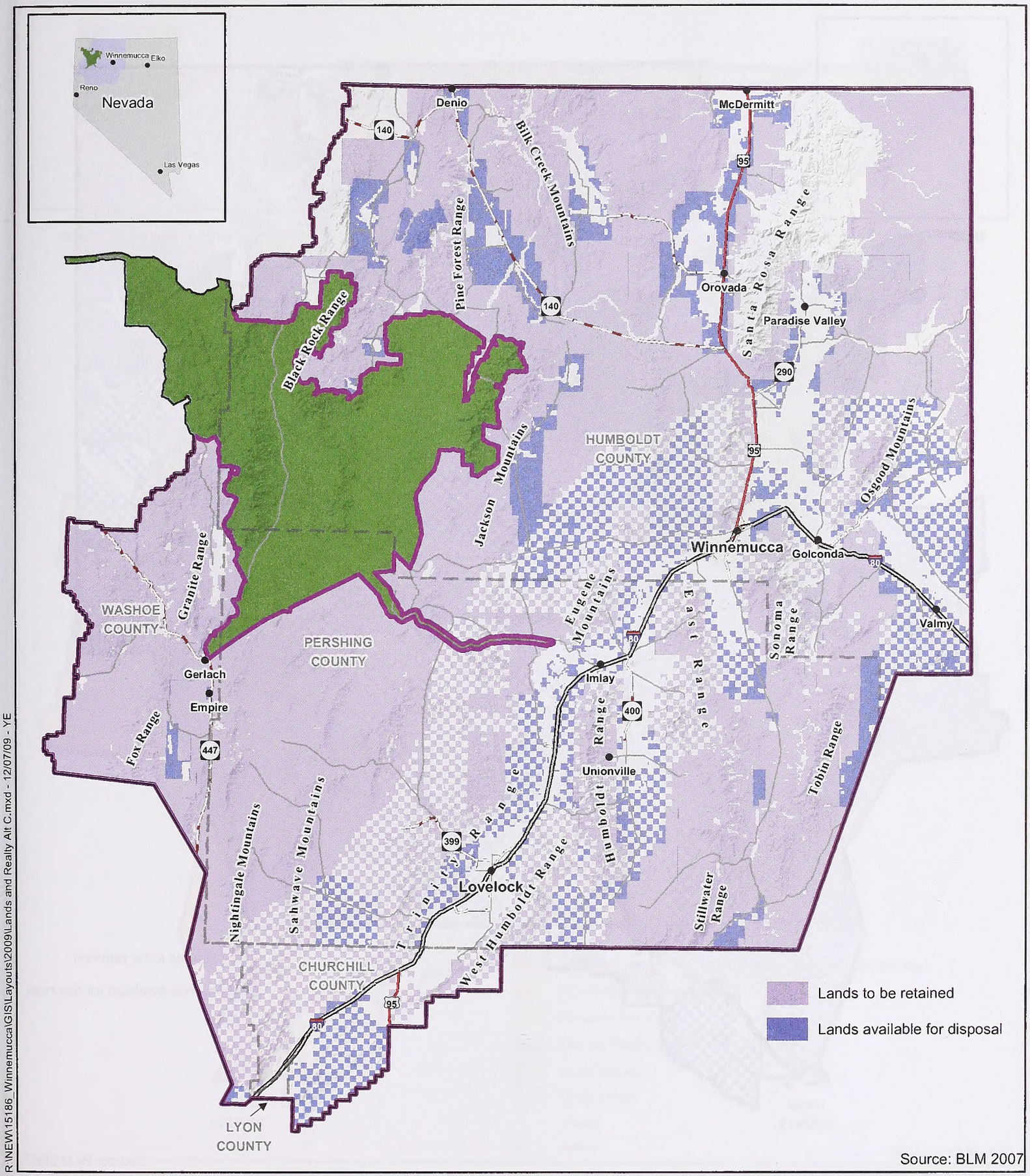
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-72



Source: BLM 2007

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Legend

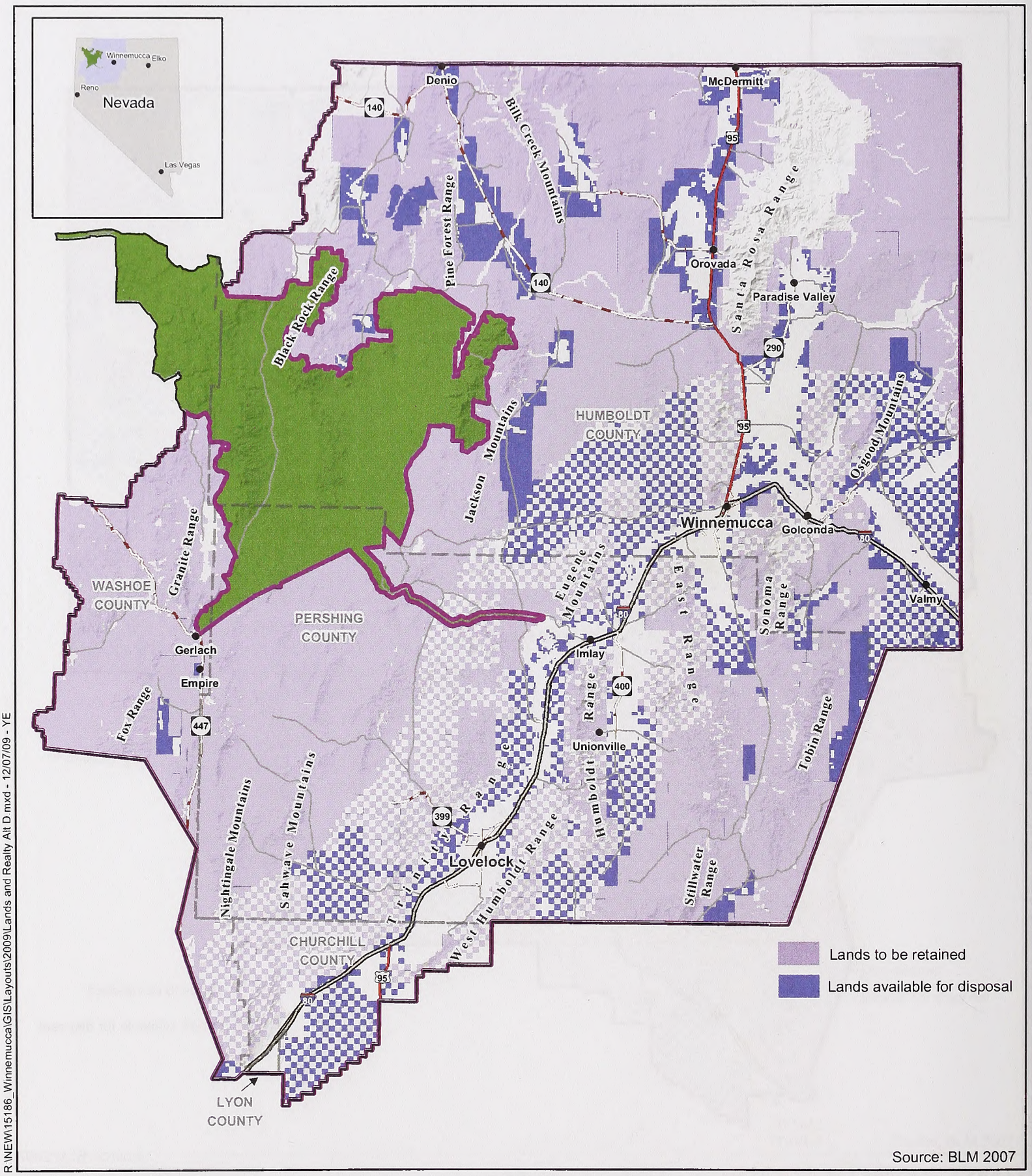
- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

0 10 20 Miles

Winnemucca District Office RMP Lands and Realty - Alternative C (Options 1 and 2)

Northwest Nevada

Figure 2-73



Source: BLM 2007

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0 10 20 Miles

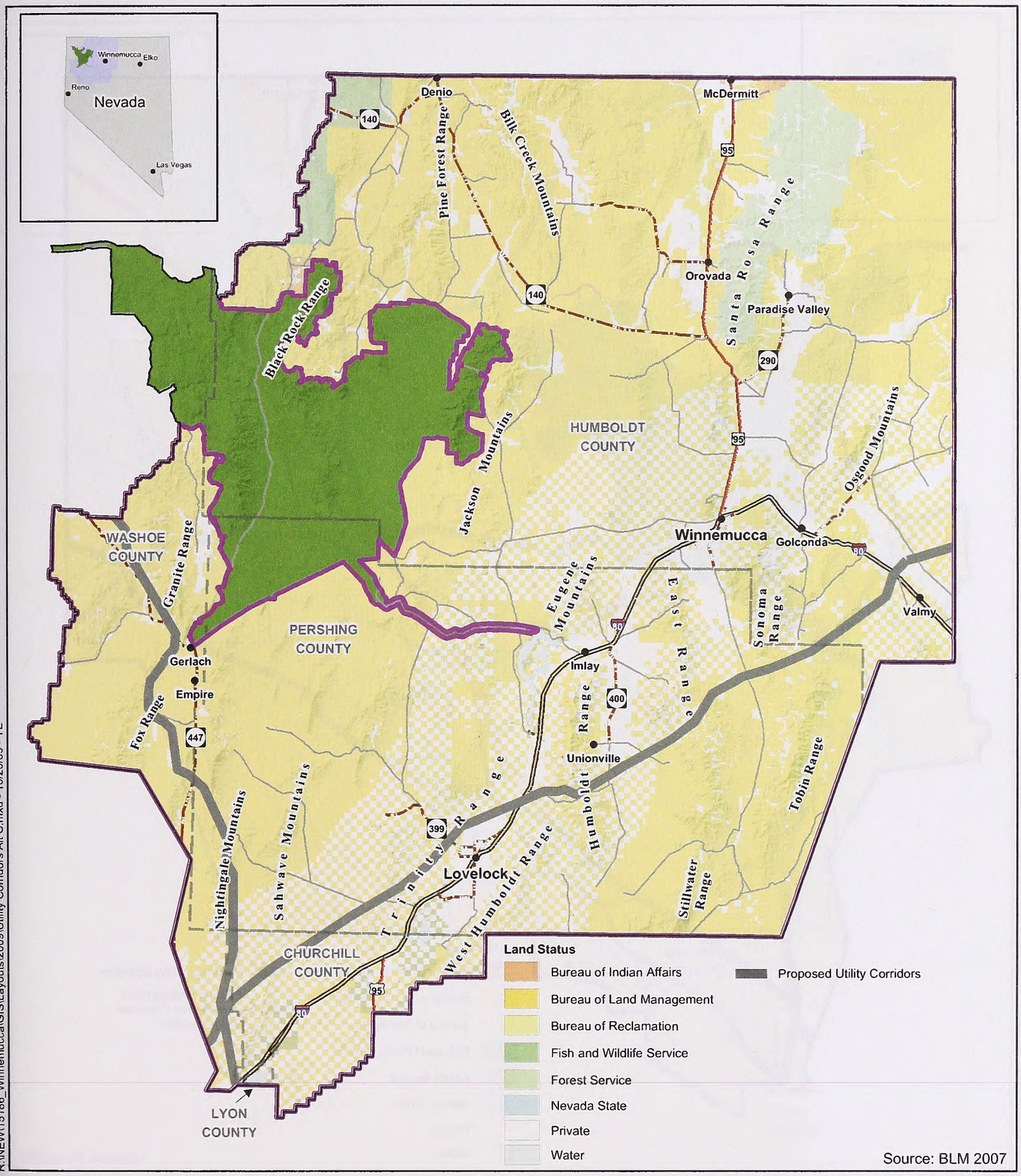
Legend

- BLM Winnemucca Field Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

Winnemucca District Office RMP Lands and Realty - Alternative D

Northwest Nevada

Figure 2-74



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Winnemucca District Office RMP Proposed Utility Corridors - Alternative C

Northwest Nevada

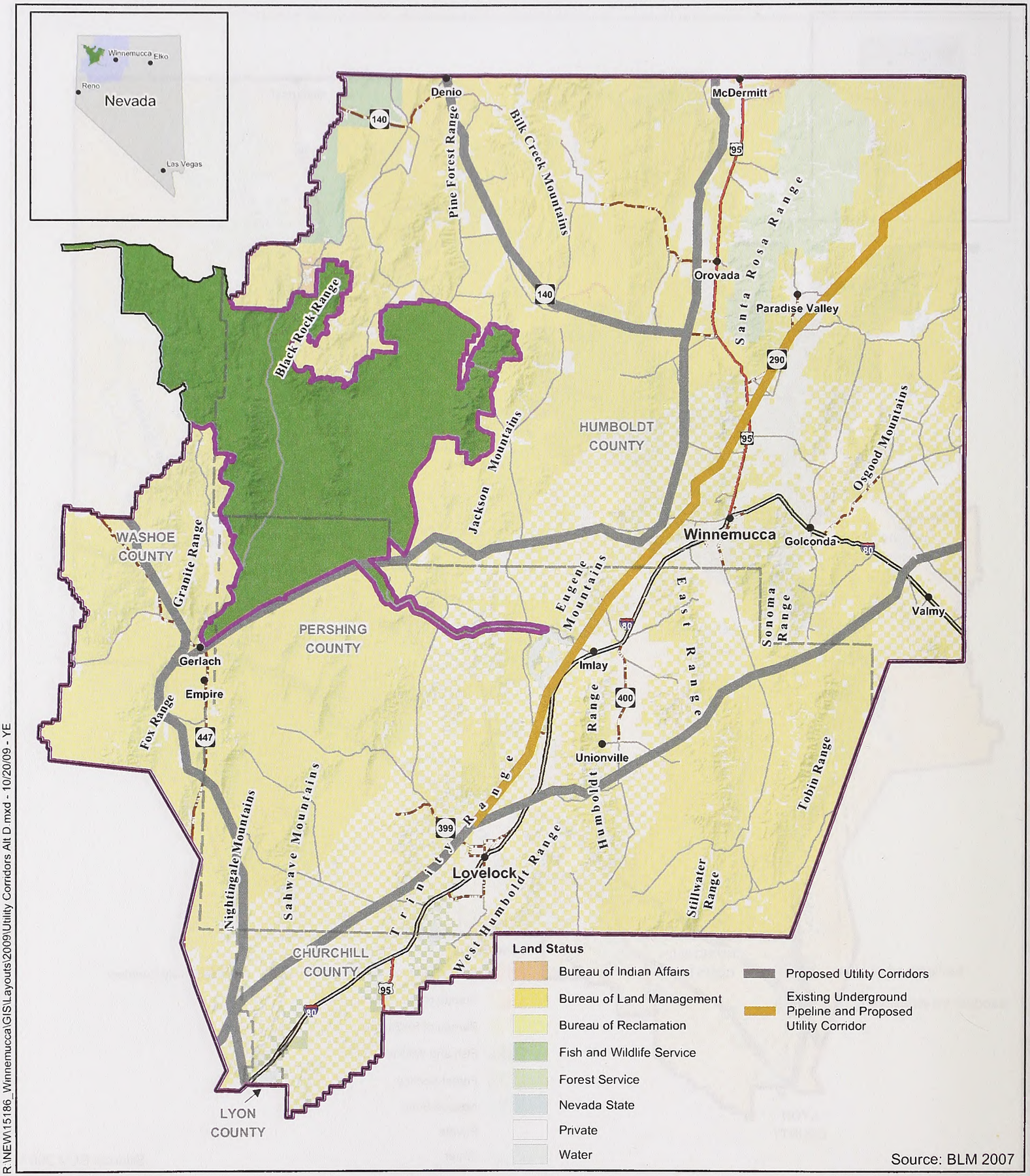
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-75



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Winnemucca District Office RMP Proposed Utility Corridors - Alternative D

Northwest Nevada

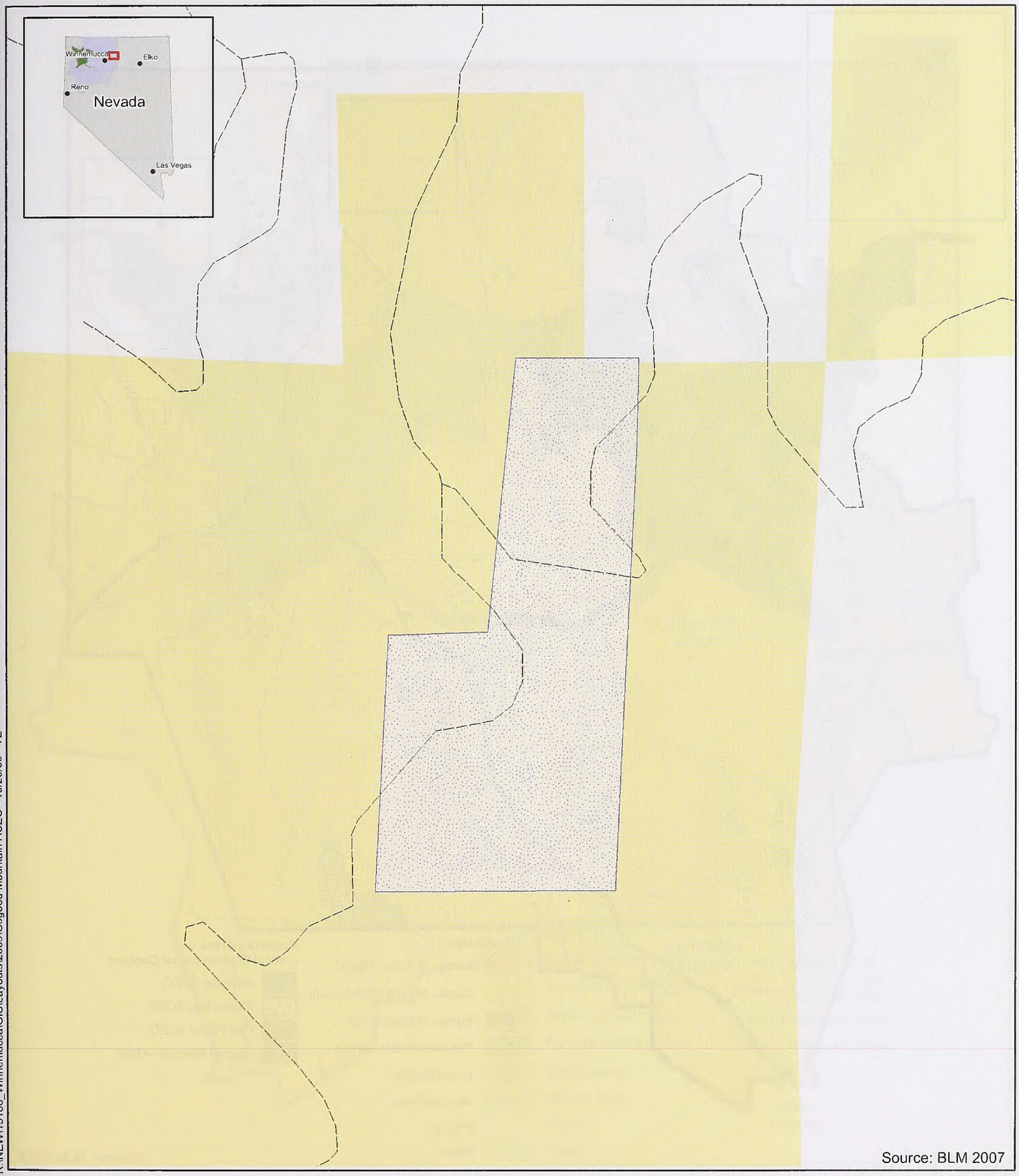
Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

Figure 2-76



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Winnemucca District Office RMP Osgood Mountain Milkvetch ACEC - Alternatives A-D

Northwest Nevada

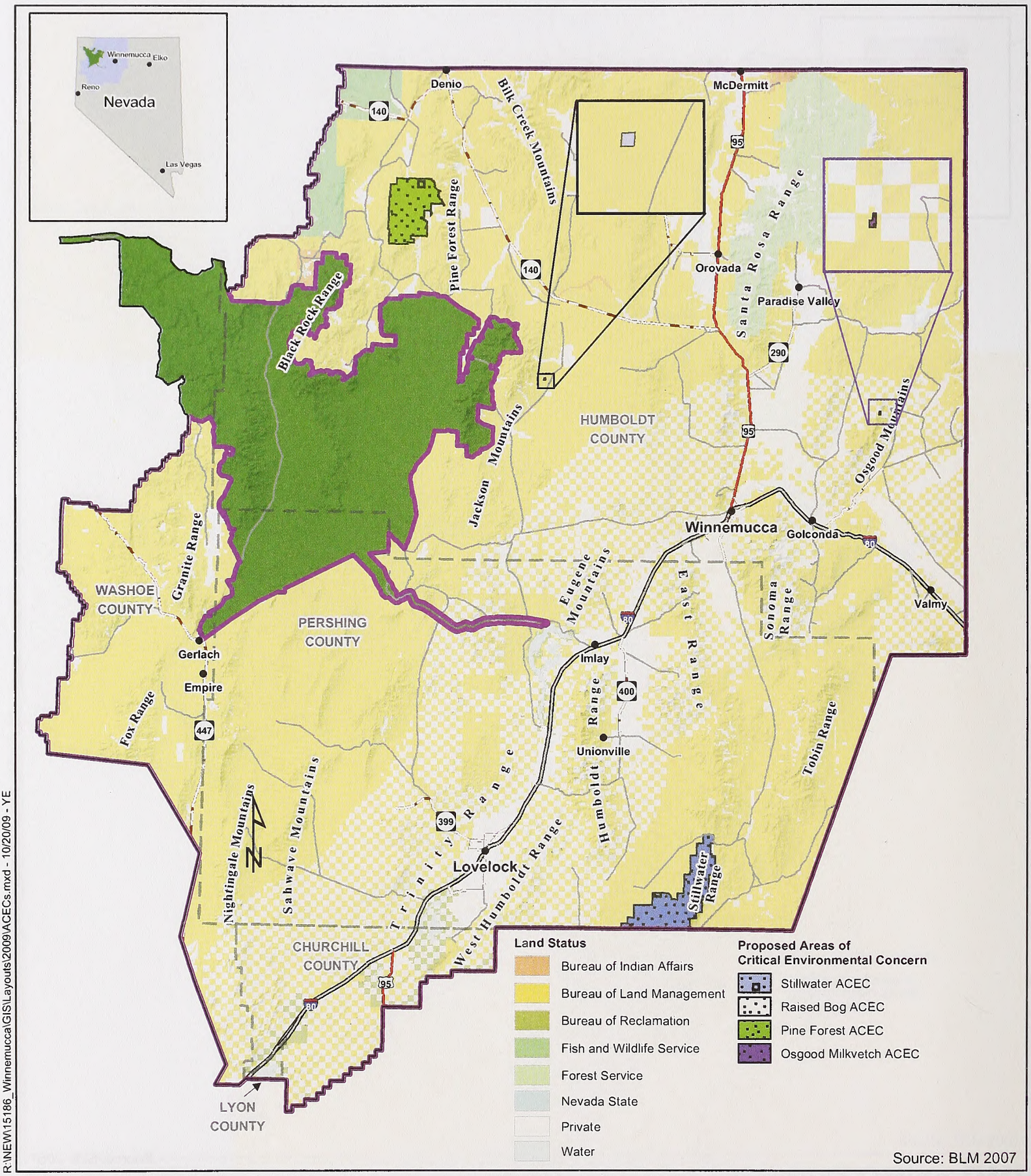
N
W E
S

0 150 300
Feet

Legend

- Bureau of Land Management
- Private
- Osgood Mountain Milkvetch ACEC
- Other Dirt Roads

Figure 2-77



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

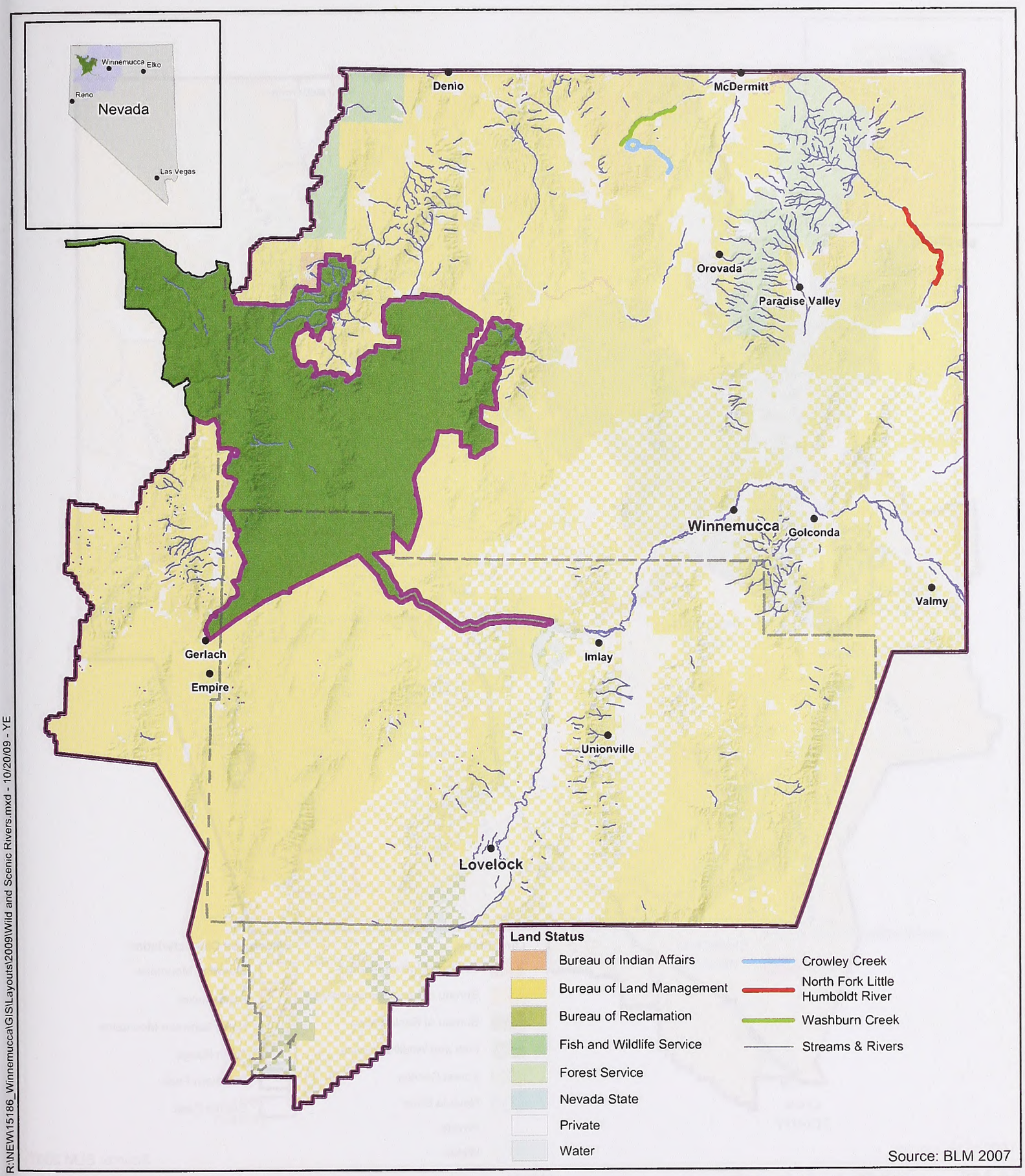
N W E S

0 10 20 Miles

Winnemucca District Office RMP Proposed ACECs - Alternatives C (Options 1 and 2) & D

Northwest Nevada

Figure 2-78



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns

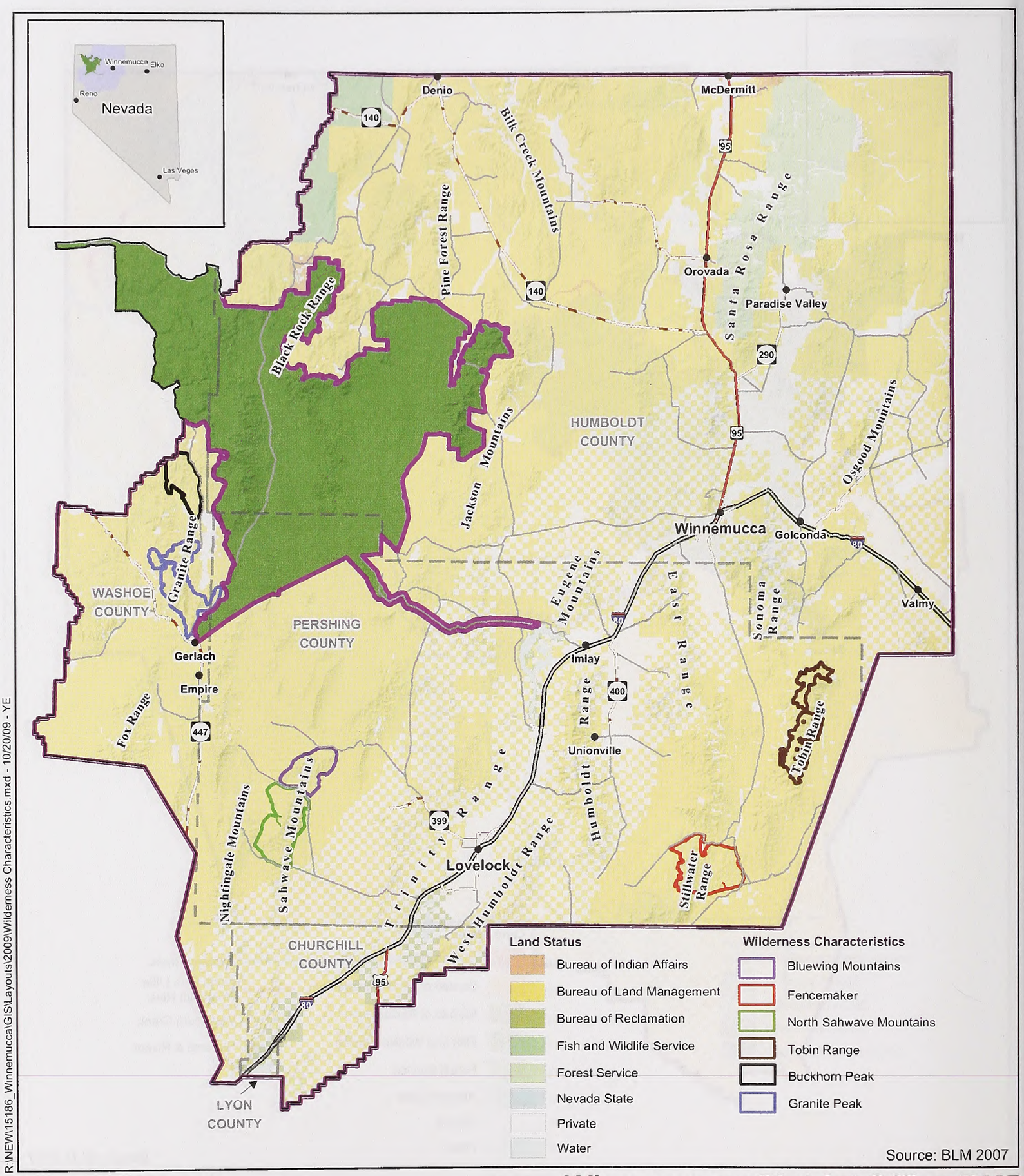
N W E S

0 10 20 Miles

Winnemucca District Office RMP Proposed Wild and Scenic Rivers - Alternative C

Northwest Nevada

Figure 2-79



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Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

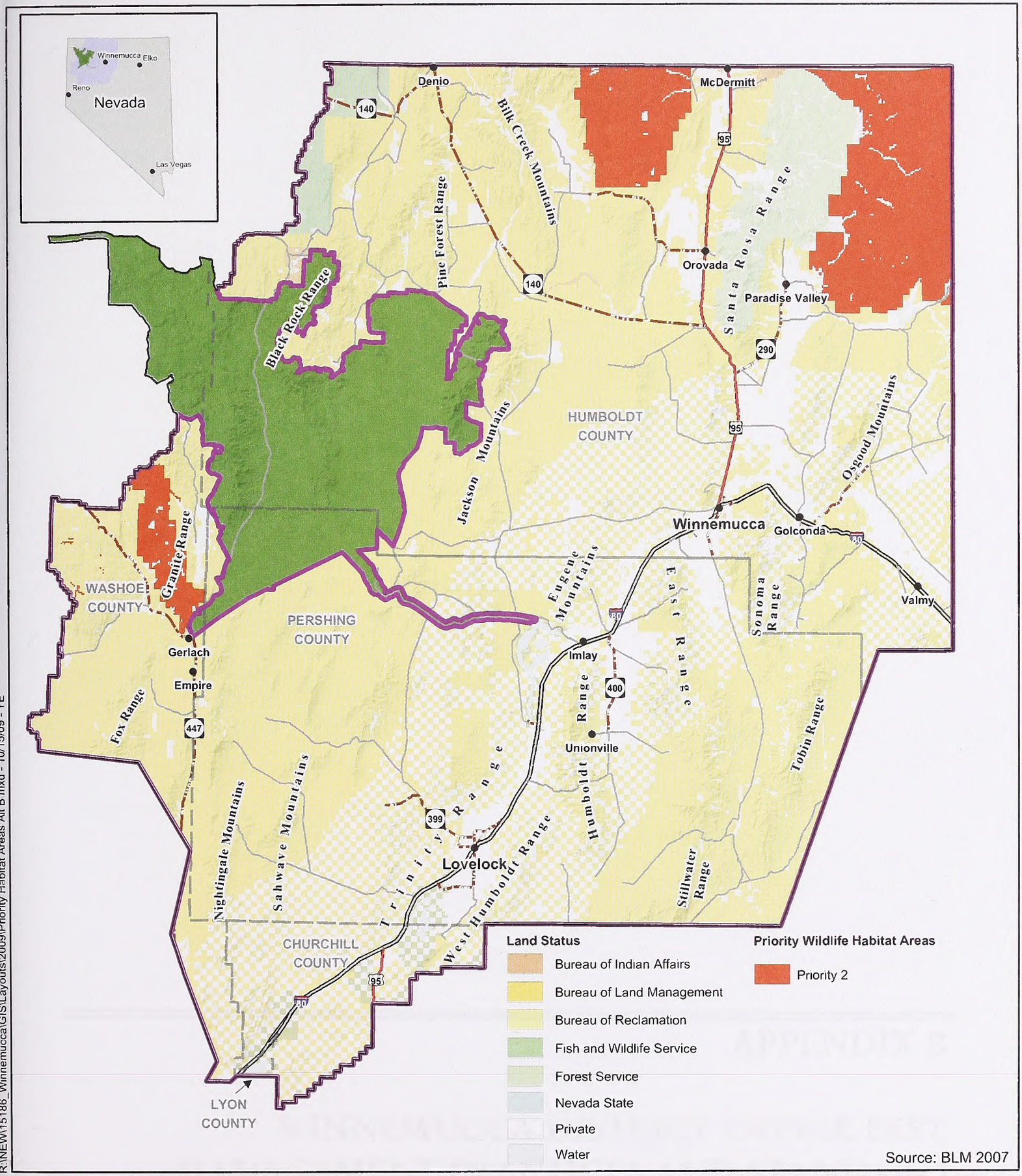
N W E S

0 10 20 Miles

Winnemucca District Office RMP Proposed Wilderness Characteristics Areas - Alternatives B-D

Northwest Nevada

Figure 2-80



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Winnemucca District Office RMP
Priority Wildlife Habitat Areas - Alternative B (Options 1 and 2)

Northwest Nevada

Figure 2-81

Legend

- BLM Winnemucca District Office Administrative Boundary
- BLM Winnemucca RMP Boundary
- Black Rock/High Rock NCA RMP Area
- County Boundaries
- Towns
- U.S. Highway
- U.S. Interstate
- County Road
- State Highway

N W E S

0 10 20 Miles

APPENDIX B

WINNEMUCCA DISTRICT OFFICE BEST MANAGEMENT PRACTICES AND STANDARD OPERATING PROCEDURES

GUIDELINES/TECHNIQUES/PRACTICES
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APPENDIX B
GUIDELINES/TECHNIQUES/PRACTICES

INTRODUCTION

Best management practices (BMPs) are often used by land managers to imply a practice that has been specifically developed to mitigate impacts.[1] Standard operating procedures (SOPs) are used by land managers where broader, national or statewide guidance is insufficient to be applied at the district office level.[2] The following guidelines, techniques and practices (collectively referred to as management guidelines) are a general summary of the Bureau of Land Management, Winnemucca District Office's BMPs and SOPs and were compiled from a variety of sources. These guidelines are by no means a comprehensive list. The goal of these guidelines, when utilized in conjunction with other management plans applicable to public land resources and resource uses, is to assist the land manager in achieving desired outcomes or conditions as outlined in the Winnemucca District Office (WDO) Resource Management Plan in order to reduce adverse environmental effects. Any number of these guidelines can be applied and/or altered as necessary, to make progress towards, or to achieve, the desired outcome or condition. While the overall vision embraces the use of these guidelines to reduce/minimize impacts on the environment, they are not to be considered a land use plan decision unless specifically designated and identified as being a mandatory action in the WDO's Resource Management Plan (RMP). Only changes in specific and identified mandatory actions would require an amendment to the RMP to that affect.

The following management guidelines are identified by resource. Since a number of these management guidelines can be applied to a variety of situations, there may be a duplication or similarity of and between these guidelines. Furthermore, although these management guidelines, techniques, and practices may be identified for specific situations or actions (e.g. wind energy right-of-ways, livestock grazing, forestry, or road construction) they are not exclusive to those actions unless otherwise specified.

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[1] Best management practices (BMPs) ~ a suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a land use plan decision unless the land use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory. (BLM Handbook H1601-1; Glossary)

[2] Standard Operating Procedure (SOPs)~a written procedure, or set of written procedures, providing direction for consistently and correctly performing routine operations. These written procedures set forth methods expected to be followed during the performance of the particular task. The SOPs for the Bureau of Land Management, Winnemucca District Office, are approved by the land use manager and are adopted as policy for the Winnemucca District Office.

RESOURCES

AIR QUALITY

Air quality standards are governed by the Clean Air Act of 1990 (as amended) (42 U.S.C. Chapter 85) The Environmental Protection Agency is charged with setting National Ambient Air Quality Standards, currently found at http://www.epa.gov/air/criteria.html. At the state level, the Nevada Department of Environmental Protection has established its standards, available at http://ndep.nv.gov/baqp/baqpollu.html. Further guidance may be found in the State of Nevada Best Management Practices Handbook: http://ndep.nv.gov/bwqp/bmp05.htm (State of Nevada BMPs)[3]

SOIL RESOURCES

Soil standards are governed by the State of Nevada BMPs.

WATER RESOURCES

Water quality standards are governed by the State of Nevada BMPs, but, during times of drought or flooding, certain lands may be temporarily closed to certain uses that may impact water sources or be impacted by flooding waters.

VEGETATION-FORESTRY AND WOODLAND PRODUCTS

Guidelines for Forestry

Standard Operating Procedures

No fuel wood cutting of live trees will be allowed for cottonwood, willow, alder, limber pine, white bark pine, and curl leaf mahogany, unless resource objectives allow otherwise.

Best Management Practices

1. Avoid heavy equipment use in stands of cottonwood, willow, alder, limber pine, white bark pine, and curl leaf mahogany. If heavy equipment use is necessary, allow on a case by case basis and mitigate for adverse impacts.
2. Allow dead and down collection of cottonwood, willow, alder, limber pine, white bark pine, and curl leaf mahogany for personal use.
3. Protect seed and important wildlife habitat trees in Pinyon/Juniper stands.
4. Manipulate pinyon, juniper stands utilizing mechanical, biological, and chemical treatments. Allow tree harvesting for woodland products and biomass reduction.

Guidelines for Christmas Tree and Firewood Harvesting

1. Vehicle use is restricted to existing roads and trails. Do not drive off road.
2. Do not damage adjacent trees.
3. When cutting down standing trees, cut the stump 12" or less, or as close to the ground as possible.
4. Scatter lopped branches at least 50 feet from the stump.
5. Do not top a larger tree to obtain a Christmas tree.

[3] This handbook will be referenced throughout these guidelines. Further references will not include web address.

6. Do not cut trees that have been posted as "**SEED TREE DO NOT FALL**" or "**WILDLIFE TREE DO NOT DISTURB**"
7. Do not harvest any trees within 100 feet of a spring or creek unless trees are identified for selective removal to meet resource objectives.
8. Please pack out your trash as well as trash left by others.

VEGETATION-WEEDS

Standard Operating Procedures

1. On BLM and BLM-authorized projects, e.g., all ROWs, SRPs, and APDs, adopt the following stipulations:
   a. Check body, undercarriage of off-road vehicles, and other equipment for plant material and clean before leaving weed infested areas.
   b. Clean vehicles and equipment (remove soil and plant parts) prior to entering and/or leaving a project area. Utilize standard contract provisions to ensure that contractors adhere to this guideline.
   c. Identify sites where equipment can be cleaned. Clean equipment before entering BLM lands.
   d. Locate and manage vehicle and equipment wash stations to limit weed and invasive species spread into native plant communities.
   e. Inspect and treat weeds that establish at equipment cleaning sites.
   f. Keep main travel corridors free of noxious weeds to prevent spread and avoid or minimize all types of travel through weed-infested areas. If travel is necessary, restrict such activity to those periods when the spread of seed or propagules is least likely.
   g. Schedule and coordinate roadside maintenance activities in consultation with weed specialists.
   h. Inspect and document inspections on travel ways for weeds and treat as necessary.
   i. Evaluate options, including closure, to regulate the flow of traffic on sites where desired vegetation needs to be established. Sites could include road and trails rights-of-way, and other areas of disturbed soils.
   j. Minimize roadside sources of weed seed that could be transported to other areas.
   k. Avoid all types of travel through weed-infested areas.
   l. Before the project begins, conduct a survey to locate noxious and invasive weeds.
   m. Design projects to avoid infestations, to the extent practicable.
   n. Monitor and treat weeds during long-term projects to prevent their establishment and spread.
   o. After the project is over, reestablish vegetation (weed-resistant vegetation, where needed), monitor and treat weeds for three years, and revegetate as needed to ensure revegetation success and prevent weed re-invasion.

2. Check body, undercarriage of off-road vehicles, and other equipment for plant material and clean before leaving weed infested areas.
3. Clean vehicles and equipment (remove soil and plant parts) prior to entering and/or leaving a project area.
4. Determine the need for, and when appropriate, identify sites where equipment can be cleaned. Clean equipment before entering BLM lands.
5. Locate and manage vehicle and equipment wash stations to limit weed and invasive species spread into native plant communities.
6. Inspect and treat weeds that establish at equipment cleaning sites.
7. Schedule and coordinate roadside maintenance activities in consultation with weed specialists.
8. Inspect and document inspections on travel ways for weeds and treat as necessary.
9. Ensure that weed prevention is considered in project activities regardless of discipline.
10. Locate project staging areas for refueling, maintenance equipment, materials and operating supplies in weed-free areas.
11. Remove mud, dirt, and plant parts from project equipment before moving it into a project area.
12. Monitor site(s) for weeds after soil disturbing activities and treat as needed.
13. The BLM shall identify on the project area map units that are infested with specific noxious weeds species of concern.
14. When determined to be necessary operator shall develop a site-specific plan for noxious weed and exotic plant prevention and control. Such plan shall be subject to BLM approval. Upon BLM approval, the noxious weed and exotic plant prevention and control plan shall become a part of the authorization of the proposed project, and its provisions shall be enforceable under the terms of the authorization.
15. The operator shall be responsible for the prevention and control of noxious weeds and/or exotic plants of concern on the project area. The operator may also be responsible for prevention and control of noxious weed and exotic plant infestations which are not within the project area, but which are determined by the BLM to have originated within the project area.
16. The operator shall provide prevention and control measures prescribed by the Bureau of Land Management. Noxious weeds and invasive weeds of concern are defined as those species recognized by the state of Nevada under NAC 555.010 or other species of concern the BLM may designate.
17. Operator must clean off-road equipment prior to moving between project areas that are known to be infested with noxious weeds and other project areas, if any, which are free of such weeds.

18. Mitigate and reduce weed spread during prescribed fire activities which includes inventory of weeds prior to burning. Treat high risk areas before burning. Pre- and post-treat high risk weed infestations.
19. Re-establish vegetation on all disturbed soil from construction, reconstruction, and maintenance activities.
20. Use certified weed-free and/or weed-seed-free hay or straw where certified materials are required and/or are reasonably available.
21. Buy only weed free seed and conduct required seed testing before use.
22. Use weed free straw or mulch in re-vegetation activities.
23. Inspect gravel pits and fill sources to identify weed-free sources. Inspect and treat sand, gravel, and fill material to prevent unwanted spread of noxious weeds and non-native species.
24. Inspect material sources on site, and ensure that they are weed-free before use and transport. Treat weed-infested sources for eradication, and strip and stockpile contaminated material before any use of pit material.
25. Track weeds which may affect known populations of BLM sensitive plants. Work with weed coordinator and take potential control measures if necessary.
26. Retain bonds until reclamation requirements are completed, including weed treatments, based on inspection and documentation.

Best Management Practices

1. Executive Order 13112 enhances and orders coordination of Federal activities to control and minimize the economic, ecological, and human health impacts caused by invasive species. The Executive Order also established a National Invasive Species Council to oversee a management plan detailing the goals and objectives of the efforts of the involved Federal agencies.
2. The Federal Plant Protection Act 2000 (Title IV of Publ. 106-224) prohibits introducing any animal, plant or material that is considered harmful to this country's agriculture. The U.S. Department of Agriculture (USDA), Plant Protection and Quarantine Division, is the enforcement authority for this Act.
3. Keep main travel corridors free of noxious weeds to prevent spread and avoid or minimize all types of travel through weed-infested areas. If travel is necessary, restrict such activity to those periods when the spread of seed or propagules is least likely.
4. Evaluate options, including closure, to regulate the flow of traffic on sites where desired vegetation needs to be established. Sites could include road and trail rights-of-way, and other areas of disturbed soils.
5. Minimize roadside sources of weed seed that could be transported to other areas.
6. Avoid all types of travel through weed-infested areas.

7. Determine prevention and maintenance needs and measures to be included at the onset of project, operation and reclamation plans at all phases including project layout, design, alternatives evaluation and project decision.
8. Incorporate actions such as project inspection, documentation, and weed prevention, including the use of herbicides, if needed, into planning documents.
9. Environmental analysis for projects and maintenance programs will need to assess weed risks, analyze potential treatment of high-risk sites for weed establishment and spread, and identify prevention practices.
10. Consider seasonal impacts of management actions (e.g. growing vs. dormant season disturbance effects) when developing objectives and strategies.
11. Begin project operations in areas without non-native or noxious weed species.
12. Before initiating ground-disturbing activities, identification and inventories of noxious weeds and other invasive species should be completed within and adjacent to project areas as well as along access routes and potential invasion vicinity. High-risk noxious weed infestations should be avoided when possible.
13. Treat or have weeds treated on projects used by contractors before activities commence.
14. Coordinate project activities with any nearby herbicide application to maximize cost effectiveness of weed treatments.
15. Determine need for, and when appropriate, identify sites where equipment can be cleaned.
16. If operation occurs within an infested area, workers need to inspect, remove, clean, and properly dispose of weed seed and plant parts found on clothing and equipment before leaving projected site.
17. Inspect and document the area where material from treated weed-infested sources is used, annually for at least three years after project completion, to ensure that any weeds transported to the site are promptly detected and controlled.
18. Avoid or minimize all types of travel through weed-infested areas, or restrict to those periods when spread of seed or propagules are least likely.
19. Minimize soil disturbance to the extent practical, consistent with project objectives.
20. Retain native vegetation in and around project activity and keep soil disturbance to a minimum, consistent with project objectives.
21. Where project disturbance creates bare ground, consistent with project objectives, re-establish vegetation to prevent conditions to establish weeds.
22. Use caution when transporting vegetative materials and wood products from project sites to minimize the spread of invasive and non-native pests.
23. Unless the entire project area is already infested with specific noxious weed species of concern, operator shall ensure that prior to moving on to project site, all off-road equipment, which last operated in areas known by the BLM to be infested with specific noxious weeds of concern, is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds.

24. Operator shall employ whatever cleaning methods are necessary to ensure that off-road equipment is free of noxious weeds.
25. Vehicles and equipment exposed to contamination and requiring less than a complete detailed cleaning include any vehicle or equipment that is only minimally exposed to the natural environment because of its operational requirements.
26. Ensure revegetation efforts are effective.
27. Schedule management activities (e.g. range management/grazing) when they may be most detrimental to populations of noxious weeds and non-native species without harming preferred species.
28. Utilize domestic animals to contain the target species in the treatment areas prior to weed seed set
29. Avoid creating soil conditions that promote weed germination and establishment.
30. Minimize soil disturbance which may encourage establishment of non-native plants or noxious weed species.
31. Use sterile or non-persistent exotic plants at low planting densities as nurse crops for local natives to preclude the migration of noxious weeds into adjacent natural areas.
32. Design vegetation treatments that create small-scale openings in order to minimize the 'footprint' of disturbance that can contribute to noxious weed establishment and spread.
33. Maintain stockpiled, un-infested material in a weed-free condition.
34. Prevent the introduction and spread of weeds caused by moving infested sand, gravel, borrow, and fill material.
35. Dispose of noxious weed and non-native vegetation properly to prevent unwanted spread.
36. Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.
37. Ensure that rental equipment is free of weed seed and propagules before the contracting officer's representative accepts it.
38. Avoid acquiring water for dust abatement where access to the water is through weed-infested sites.
39. Re-vegetate disturbed soil (except travel ways on surfaced projects) in a manner that optimizes plant establishment for that specific site. Define for each project what constitutes disturbed soil and objectives for plant cover re-vegetation.
40. Re-vegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching as necessary.
41. Use native material where appropriate and feasible.
42. Use local seeding guidelines to determine detailed procedures and appropriate mixes. To avoid weed-contamination, a certified seed laboratory needs to test each lot against the all-State noxious weed list, and provide documentation of the seed inspection test.

43. Inspect and document all limited term ground-disturbing operations in noxious weed infested areas for at least three (3) growing seasons following completion of the project.

44. Provide information, training and appropriate weed identification materials to people potentially involved in weed introduction, establishment, and spread on BLM lands, including agency managers, employees, permit holders, and recreational visitors.

45. Seed and straw mulch to be used for site rehabilitation (for wattles, straw bales, dams, etc.) all need to be inspected and certified that they are free of weed seed and propagules.

46. To prevent conditions favoring weed establishment, re-establish vegetation on bare ground caused by project disturbance as soon as possible using either natural recovery or artificial techniques as appropriate to the site objectives.

47. Reestablish native vegetation on sites if natural regeneration is unlikely. Use native vegetation that is genetically adapted (e.g. from the same seed zone and of similar elevation) to the area treated when conducting revegetation activities.

48. Mitigate and limit impacts to habitats with existing and healthy native plant populations. Retain native vegetation in and around project areas to the maximum extent possible consistent with project objectives.

49. Where possible, provide interim revegetation in areas being actively disturbed.

Further guidance is provided by the Vegetation Treatments Using Herbicides; Programmatic Environmental Impact Statement (2007) and BLM Handbook 9000

Vegetation Treatments

Vegetation treatments are governed by the Vegetation Treatments Using Herbicides; Programmatic Environmental Impact Statement and Record of Decision (2007); and BLM Handbook 9000.

CHEMICAL AND BIOLOGICAL CONTROL

Standard Operating Procedures and Best Management Practices – Wildlife Damage Management (WDM) Activities

1. No control is allowed on public lands within a mile of any community, major mine, developed recreation site, or any residence, except for the purpose of human health and safety or as requested specifically by a cooperator. Animal and Plant Health Inspection Service-Wildlife Services (APHIS-WS) will notify the Winnemucca District (WD) before any damage control is implemented within the restricted area(s), and exceptions would be approved on a case-by-case basis. No M-44's or other nonspecies-specific toxicants are to be used within these areas, in accordance with EPA label use restrictions (i.e., within seven miles).

2. All EPA use restrictions and requirements for toxicants are to be followed where control devices are used on public lands. The WD must be notified before any toxicants are deployed, and a map of the treatment area must be provided. Adequate signs must be provided and maintained.

3. Toxicants and M-44 cyanide devices are not allowed in wilderness areas.

VEGETATION-RANGELAND

Guidance may come from various sources. See individual resources.

Standard Operating Procedure

When making decisions about proposed projects/actions in known sagebrush habitat, existing plans and guidance would be used by interdisciplinary teams and considered in the decision making process. This guidance includes the conservation actions/guidelines identified in the Western Association of Fish and Wildlife Agencies – Guidelines to Manage Sage-Grouse Populations and Their Habitats, the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California and PMU Plans developed by the North Central and Washoe-Modoc local area planning groups.

VEGETATION-RIPARIAN HABITAT AND WETLANDS

Best Management Practices

1. Minimize crossing of streams (intermittent and perennial) and wetlands with vehicles and heavy machinery.
2. Locate residue piles (sawdust, field chipping residue, etc.) away from drainages where runoff may wash residue into water bodies or wetlands.
3. Maintain appropriate vegetative/riparian buffers around water bodies to protect water quality.
4. Manage riparian areas to provide adequate shade, sediment control, bank stability, and recruitment of wood into stream channels.
5. Locate project staging areas for refueling, maintenance equipment, materials and operating supplies in areas not designated as riparian and/or stream bank management zones.
6. Determine the best locations and design for roads, the slope of roads, and the approach to stream crossings through proper planning.
7. Do not locate roads/trails parallel to streams. Where roads must cross streams, cross perpendicularly and then the roads/trails must immediately exit the buffer zone.
8. Appropriate improvements, such as culverts, must be placed at stream crossings to keep vehicles/equipment out of the stream flow and to prevent direct sedimentation of streams.
9. Maintain a minimum of 6 inch stubble height at the end of October on stream bank (lotic) riparian.
10. Maintain a minimum of 4 inch stubble height at the end of October on wet meadows (lentic) systems.

Further guidance may be provided by the State of Nevada BMPs

FISH AND WILDLIFE MANAGEMENT / SPECIAL STATUS SPECIES

Standard Operating Procedures

1. Fences constructed will comply with applicable wildlife fence standards (Fences - BLM Manual Handbook H-1741-1). Existing fences that impede big game movement or that otherwise conflict with wildlife may be modified to comply with applicable wildlife fence standards on a case-by-case basis.
2. The WDO will consult agency species management plans and other conservation plans as appropriate to guide management and devise mitigation measures when needed. Examples of these plans include but are not limited to the Intermountain West Regional Shorebird Plan, North American Landbird Conservation Plan, North American Waterbird conservation Plan, National and Nevada Partners in flight Bird Conservation Plans, Nevada

Bat Conservation Plan, and the Nevada State Wildlife Action Plan (Comprehensive Wildlife Conservation Strategy).

Best Management Practices

1. Coordinate with the NDOW on BLM projects and BLM authorized projects that are proposed within 0.5 mile of a small capacity water development and 2.0 mile of a large capacity wildlife water development. Projects determined to have a detrimental affect on wildlife using wildlife water developments will be avoided or rerouted if possible.
2. Coordinate with NDOW on migratory bird inventories when migratory bird inventories are proposed by BLM or required of third parties.
3. Coordinate with NDOW when pygmy rabbit inventories are proposed by BLM or required of third parties. The inventories should be completed using standardized protocols such as those developed by Ulmschneider et. al., 2004.
4. Wildlife water developments proposed in Wilderness Study Areas would have to meet the non-impairment criteria.

Standard Operating Procedures and Best Management Practices – Wildlife Damage Management Activities

1. No aerial control activities within a half-mile of active eagle nests between February 1 and August 1. General areas of known active eagle nesting sites will be developed by APHIS-WS, in coordination with Nevada Department of Wildlife (NDOW).
2. The WD will identify through the APHIS-WS annual work plan process other areas of public lands considered special resource use areas on which control activities must be avoided, except as requested by NDOW, or other protective restrictions may apply. Examples include special status species habitats (e.g., sage-grouse leks and nesting areas).

See also Vegetation – Riparian and Wetlands

WILD HORSE AND BURRO

Standard Operating Procedures - Administration/Implementation

1. Standards and Guidelines for Management of Wild Horses and Burros of the Sierra Front – Northwest Great Basin Area (2007);
2. Wild Horse and/or Burro Gathers Standard Operating Procedures (12/07);
3. Wild Horse Fertility Control Treatment Standard Operating Procedures (12/07)

Standard Operating Procedures – Resource Projects

1. All new or reconstructed water exclosures within HMAs or in areas known to be used by WH&Bs will follow the horse fencing standards as identified in *Wildlife Water Catchment Construction in Nevada, Technical Note 397* (9/03).
2. To protect wild horses and burros, flag all new or repaired fencing (wire) every 16 feet with flagging that is at least 1 inch wide and has at least 12 inches hanging free from the top wire of the fence.
3. Require rebar to be welded between the rails of cattle guards if the cattle guard or similar device is to be installed in or near Herd Management Areas to decrease the risk of wild horse and/or burro entrapment.

4. If a project involves heavy or sustained traffic, require road signs for safety and protection of wild horses and burros.

Standard Operating Procedures and Best Management Practices - Outfitter/Guide Permits

1. The Permittee shall inform all staff and clients that wild horses and burros (WH&Bs) are protected by Federal law and will prevent harassment of WH&Bs from permitted activities. Prohibited acts include but are not limited to: maliciously injuring or harassing a wild horse or burro; removing or attempting to remove a wild horse or burro from public lands; destroying a wild horse or burro; selling or attempting to sell a wild horse or burro; and, commercially exploiting a wild horse or burro. Crimes are punishable by fine and/or imprisonment. Examples of violations might include harassment by ATV, injury or death by a bullet or arrow, and illegal capture.
2. Stay at least 100 feet away from wild horses or burros.
3. Try not to place yourself between members of a band or between adjoining bands.
4. Observe wild horses and burros quietly so wild behavior is not disrupted.
5. If you are approached by wild horses or burros while riding horseback, stay calm, maintain control of your animal, and leave the area as soon as you can. Ride with others whenever possible.
6. Mares, especially if in season, may attract wild stud horses to you or your camp. Keep domestic horses secure at all times. Ride with others who are experienced and skilled at resolving unwanted wild horse or burro interactions.
7. Do not feed or try to attract animals towards you.
8. Keep dogs under control so they do not disturb or chase wild horses or burros.
9. Report sick or injured animals, or violations, to the BLM.
10. Please do not attempt to assist or handle sick or injured animals.
11. Still or motion picture photography for personal use is allowed (however, photography for commercial purposes may require a permit). Contact the local BLM office.

Use of Domestic Livestock

1. Adequate water for livestock and dogs may not be available along your route. Springs and other water sources identified on maps may be dry at any time.
2. Bring a sufficient quantity of drinking water for your livestock (15 gal or more/day/animal).
3. Feed weed-free certified hay or pellet feed (www.weedfreefeed.com).
4. Secure your livestock adequately (use portable panels or corrals).
5. Be sure your domestic riding stock are current with annual vaccinations.
6. Do not bring sick or diseased riding animals into HMAs. Wild horses on the range are not vaccinated against any diseases.
7. Do not drive across, camp on, or stake livestock out to graze on riparian areas.
8. Water livestock only at springs or streams with stable banks and dry soils.

9. Keep livestock secured away from camp sites and spread manure before leaving.
10. Explore the area prior to hauling in a trailer to assess access. Pulling horse or other trailers off of State or County designated roads should only be done with prior operator knowledge of the road. Many roads are narrow, rough, steep, or impassable. Turning around may be difficult or impossible, especially with a trailer.

Standard Operating Procedures and Best Management Practices – Recreation (Race) Use

1. The permittee shall do everything possible to insure that event participants and spectators do not harass or collect wildlife, plants, livestock, wild horses or burros, or archaeological features or artifacts;
2. Before the main race begins, the permittee will complete a pre-race sweep to ensure there are no recreation users, wild horses/burros, livestock, or other obstacles on and/or within 100 yards of the course;
3. In the event of a horse or burro/racer collision, the race organizer will notify BLM personnel immediately. The BLM personnel will notify a BLM horse specialist immediately with the given details and exact location of the collision;
4. In the unlikely event that a foaling mare or newborn foal is encountered, every effort should be made to detour the race course away from that location.

Standard Operating Procedures and Best Management Practices – Wildlife Damage Management Activities

1. All aerial control activities in wild horse and burro use areas must be conducted in compliance with all applicable Nevada State Statutes, the provisions of the 1971 Wild and Free-Roaming Horses and Burros Act, as amended, and its associated regulations (43 Code of Federal Regulations, 4700). No harassment of wild horses and burros is permitted under these provisions; maliciously or negligently injuring a wild horse or burro is also expressly prohibited.
2. During the foaling season (March 1 to June 30), a flyover survey to determine whether wild horses or burros are present will be conducted before any WDM activities. This survey will be conducted at a minimum of 500 feet above ground level. If wild horses or burros are determined to be present, flyover surveys will be adjusted as needed to prevent any disturbance or harassment of the animals.
3. If flyover surveys determine wild horses or burros are not present, WDM activities can be conducted.
4. If flyover surveys determine wild horses or burros are present, no WDM activities can take place that would disturb or harass these animals.
5. All persons involved with WDM activities should be briefed on the regulations and penalties relating to harassment of wild horses or burros before animal control operations.

WILDLAND FIRE ECOLOGY AND MANAGEMENT

Standard Operating Procedures/ Best Management Practices- Fuels Management

1. Construct fuel breaks or green strips to protect WUI communities and important wildlife habitat and to provide for firefighter safety, using mechanical, chemical, biological, and prescribed fire treatment.

2. Construct fuel breaks and green strips in areas containing a good understory of native perennials in order to successfully compete with and deter the establishment of annual species.
3. Where possible, construct fuel breaks/green strips to blend with the surrounding topography.
4. Seed green strips in areas that do not have a good understory of desirable native perennials that can successfully compete with annual species.
5. Where practicable, use large-scale landscape planning to connect fuel breaks and avoid small piecemeal projects.
6. Maintain fuel breaks and green strips to ensure that they effectively change fire behavior.
7. Avoid grazing of seeded species during the first growing season following seeding.

Standard Operating Procedures - Fire Suppression

1. Avoid whenever possible burning out unburned islands of native vegetation.
2. Avoid surface-disturbing suppression activities in riparian areas whenever possible.
3. Do not construct fire lines using heavy equipment in riparian stream zones, and do not apply fire retardant to water.
4. Avoid the application of retardant or foam within 300 feet (91.5 m) of the stream channel or waterway, when possible. Aerial application and use of retardants and foams should be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.
5. If is the unit administrator determines that retardant or surfactant foam must be used within 300 feet (91.5 m) of a waterway or stream channel due to threats to life or property, and if alternative line construction tactics are not feasible because of terrain constraints, congested areas, or lack of ground personnel, or if potential damage to natural resources outweighs possible loss of aquatic life, the unit administrator should determine whether there have been any adverse effects on federally listed species. If the action agency determines that adverse effects were incurred by federally listed species or their habitats, then the action agency must consult with the USFWS, as required by 50 CFR, 402.05 (Emergencies), as soon as practicable.
6. Close lands temporarily to other uses in areas where fire suppression is being implemented.

In addition to the general suppression constraints, the following constraints are to be implemented within the vicinity of special status aquatic species habitats:

7. Stream flow should not be impounded or diverted by mechanical or other means in order to facilitate extraction of water from the stream for fire suppression efforts.
8. The intake end of the draft hose should be screened to prevent entry of fish. Screen opening size should be a maximum of 3/16 inch (4.7 mm).

9. Water extraction should not exceed the ability of the stream inflow to maintain water levels that exist at the time initial attack began. If the water level drops below this predetermined level, all water removal should cease immediately until water levels are recharged.
10. For streams currently occupied by Lahontan cutthroat trout or aquatic special status species, water should not be allowed to be extracted from ponds or pools if stream inflow is minimal (for example, during droughts) and extracting water would lower the pond or pool level.
11. When possible, fire control lines should not cross or terminate at the stream channel.
12. Control lines should terminate at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives, based on fire behavior, vegetation/fuel types, and firefighter safety.

Standard Operating Procedures – Emergency Stabilization and Rehabilitation (ES&R)

1. Stabilize areas that have low potential to naturally revegetate and that have high wind and soil erosion potential. Treatments include the following:
   a. Installing water bars and other drainage diversions, culverts along fire roads, dozer lines, and other cleared areas;
   b. Seeding and planting to provide vegetative cover;
   c. Spreading mulch to protect bare soil and discourage runoff;
   d. Repairing damaged roads and drainage facilities;
   e. Clearing stream channels of structures or debris that is deposited by suppression activities;
   f. Installation of erosion control structures;
   g. Installation of channel stabilization structures;
   h. Close areas to livestock and wild horse and burro grazing to promote success of natural re-vegetation or establishment of seeded species;
   i. Lands may be temporarily closed to other uses during emergency stabilization and rehabilitation practices if activities inhibit treatment.
   j. Repair or replace range improvements and facilities; and
   k. Monitor ES&R treatments.

Fire Prevention and Mitigation

1. Post fire prevention signs based on National Fire Danger Rating System (NFDRS).
2. Provide fire prevention and mitigation outreach information and education to communities.
3. Reduce the potential for human-caused fires by issuing fire restrictions.

CULTURAL/ PALEONTOLOGICAL RESOURCES and TRIBAL CONSULTATION

Standard Operating Procedures

1. Pursuant to 43 CFR 10.4(g) the holder of a BLM authorization to carry out land use activities on Federal lands, including all leases and permits, must notify the BLM, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Pursuant to 43 CFR 10.4(c)

and (d), activities must stop in the immediate vicinity of the discovery. The discovery must be protected from the authorized activity for a period of 30 days or unless otherwise notified by the BLM.

2. All BLM activities, and BLM authorized activities, shall comply with Cultural Resources Inventory General Guidelines (1989); BLM Cultural Resource Manual 8100; American Consultation Manual, 8160 and the current State Protocol Agreement between Bureau of Land Management, Nevada, and Nevada State Historic Preservation Office.

VISUAL RESOURCES

Best Management Practices or Standard Operating Procedures

1. Refer to Visual Contrast Rating Worksheet Form 8400-4.
2. Refer to *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (commonly referred to as The Gold Book).
3. The following considerations can be helpful in choosing a project location:
   - Visual contrasts or impacts decrease as the distance between the viewer and the proposed development increases, so projects should be located as far away from prominent viewing locations as possible;
   - The human eye is naturally drawn to prominent topographic features, so projects should not be located on or near such features;
   - The shape and placement of projects should be designed to blend with topographic forms and existing vegetation patterns; and
   - Both topographic features and vegetation should be used to screen proposed development.
4. Techniques that help reduce surface disturbance are as follows:
   - Collocating several projects within the same right-of-way;
   - Placing underground utilities either along the edge or under the surface of an existing road;
   - Placing several underground utilities within the same trench;
   - Establishing limits of disturbance that reflect the minimum area required for construction;
   - Consolidating development of a similar nature within a common structure;
   - Planning projects so that they use existing infrastructure, whenever possible;
   - Maximizing slope when it is aesthetically and technically appropriate;
   - Locating construction staging and administrative areas in less visually sensitive areas; and
   - Requiring restoration of disturbed areas no longer required after construction has been completed
5. Every landscape has the basic elements of form, line, color, and texture. Repeating these elements reduces contrasts between the landscape and the proposed activity or development and results in less of a visual impact.
6. The following considerations can be helpful in making color selections:

- Natural surfaces are usually well textured and have shade and shadow effects that darken them; surfaces of structures are usually smooth and reflect light even if dull-finish paint is used; so, as a general rule, colors on smooth man-made structures need to be two or three shades darker than the background colors to compensate for the shadow patterns created by naturally textured surfaces that make colors appear darker.
- The color selection for all structures should be made to achieve the best blending with the surrounding landscape in both summer and winter.
- Galvanized steel on utility structures should be darkened to prevent glare. Low luster paints should be used wherever possible to help reduce glare. (It is almost impossible to remove all sun glare.)
- Color (hue) is most effective within 1,000 feet. Beyond that point, color becomes more difficult to distinguish, and tone or value determines visibility and resulting visual contrast.
- Surface disturbance of western mineralized soils can result in strong color contrasts. In many situations, this suggests that the area should be avoided as a location for the proposed development or that color selections for the man-made facilities or disturbance might need to reflect the lighter color soil revealed by the disturbance.
- Colors should be selected from a distance that permits viewing of the entire landscape surrounding the proposed development.
- Colors that blend with or are in harmony with the existing colors of the earth, rocks, and vegetation are usually more visually pleasing and attract less attention than colors that are chosen to match the color of the sky.

7. Another effective method of reducing the visual impact from a proposed activity or development is to retain as much of the existing vegetation as possible and where practical to use the existing vegetation to screen the development from public viewing areas. Some other techniques are as follows:

    - Design vegetative openings to repeat natural openings in the landscape. Edges that are scalloped and irregular are more natural looking; straight line edges should be avoided;
    - Minimize the impact on existing vegetation by:
        - Partially clearing the limits of construction rather than clearing the entire area (leaving islands of vegetation results in a more natural look),
        - Using irregular clearing shapes,
        - Feathering/thinning the edges of the cleared areas to reduce strong lines of contrast; to create a more natural look along an edge, retain a good mix of tree/shrub species and sizes, and
        - Disposing of all slash.

8. The visual impact from new structures placed on the existing landscape can be reduced by using the following:

    - Repeating form, line, color, and texture;
    - Minimizing the number of structures and combining different activities in one structure wherever possible;

- Using earth-tone paints and stains;
- Using self-weathering metals;
- Chemically treating wood so that it can be allowed to self weather;
- Using natural stone in wall surfaces;
- Burying all or part of the structure;
- Selecting paint finishes with low levels of reflectivity;
- Using rustic designs and native building materials;
- Using natural-appearing forms to complement landscape character; and
- Screening the structure from view with natural landforms and vegetation.

9. The scars left by excessive cut and fill during construction in our western landscapes often leave long-lasting negative visual impacts. This is especially true of activities that disturb the highly mineralized soils of the arid West. Once the dark surface soil layer is disturbed, exposing the much lighter color of the subsurface soil, a strong contrast is created that may take years to recover.

   There are a number of ways to reduce the contrasts created by earthwork construction. Proper location and alignment are probably the most important factors. Fitting the proposed development to the existing landforms in a manner that minimizes the size of cuts and fills will greatly reduce visual impacts from earthwork. Other earthwork design techniques, such as balancing cut and fill or constructing with all fill or all cut should be considered, where appropriate, as methods to reduce strong visual impacts. Other strategies are as follows:

   - Hauling in or hauling out excessive earth cut or fill in sensitive viewing areas;
   - Rounding or warping slopes (shaping cuts and fills to appear as natural forms);
   - Bending slopes to match existing landforms;
   - Retaining existing rock formations, vegetation, and drainage, whenever possible;
   - Split-face rock blasting (cutting rock areas so that the resulting rock forms are irregular in shape, as opposed to making uniform "highway" rock cuts);
   - Toning down freshly broken rock faces using asphalt emulsions and rock stains;
   - Using retaining walls to reduce the amount and extent of earthwork;
   - Retaining vegetation by using retaining walls, reducing surface disturbance, and protecting roots from damage during excavation;
   - Avoiding soil types that will generate strong contrasts with the surrounding landscape when they are disturbed; and
   - Prohibiting dumping of excess earth/rock on downhill slopes.

10. Strategies for restoration and reclamation are akin to the design strategies for earthwork, as well as the design fundamentals of repeating form, line, color, and texture and reducing unnecessary disturbance. The objectives of restoration and reclamation include reducing long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment, while still providing for project operations.

    Though restoration and reclamation are a separate part of project design, they should not be forgotten or ignored. It is always a good idea to require a restoration/reclamation plan as part of the original design package. All areas of disturbance that are not needed for operation and maintenance should be restored as closely as possible to previous condition.

Several strategies that can enhance any restoration or reclamation effort are as follows:

- Striping, saving, and replacing topsoil (six-inch surface layer) on disturbed earth surfaces;
- Enhancing vegetation by
  - Mulching cleared areas,
  - Furrowing slopes,
  - Using planting holes on cut/fill slopes to retain water,
  - Choosing native plant species,
  - Fertilizing, mulching, and watering vegetation,
  - Replacing soil, brush, rocks, forest debris over disturbed earth surfaces when appropriate, thus allowing for natural regeneration rather than introducing an unnatural looking grass cover; and
- Minimizing the number of structures and combining different activities in one structure wherever possible.

11. Projects and activities associated with linear alignments include rights-of-way, roads, trails, pipeline developments, and underground and overhead utility lines. The visual impact of a linear project depends largely on where it is located and how it is molded to the natural terrain. Proper location can often contribute significantly to reducing line and color impacts, making other measures either unnecessary or less costly and easier to accomplish.

Finding the best route for linear alignments involves the following:

- Identifying and analyzing all possible corridor alignments and selecting the one most feasible for the proposed project and
- Locating the proposed project within the selected corridor after a thorough analysis of all environmental, socioeconomic, and engineering factors.

There are several major considerations for determining an alignment:

- Topography is a crucial element in alignment selection. Visually, it can be used to subordinate or hide man-made changes in the landscape. Projects located at breaks in topography or behind tree groupings are usually of much less visual impact than projects on steep side slopes. By taking advantage of natural topographic features, cut and fill slopes can be greatly minimized;
- Topographic breaks frequently exhibit a natural line element that the proposed alignments can repeat or blend with to strengthen the design. This line element is partly established by a visual shadow zone, which will further reduce the contrast of the project;
- Soils are especially important when selecting an alignment and should be analyzed for stability and fertility, and a revegetation program should be planned;

- Hydrological conditions can strongly affect the visual impact of buried and surface construction. The risks of surface and subsurface erosion within the corridor should be analyzed and evaluated;
- Crossings with other linear features or structures should be designed to minimize their visual impact:
  - When possible, crossings should be made at right angles,
  - Structures should be set as far back from the crossing as possible, and
  - In areas with tree and shrub cover, the rights-of-way and structures should be screened from the crossing area.

It is important to remember that when a system is planned and designed:

- Other services that will be needed to support the system must be analyzed and included in the design considerations. For example, a construction access road, electrical power with a backup system, and sanitation facilities are usually needed for most projects. At times, the visual impact of the support facilities is the deciding factor for the specific location of the main project.
- How the system is to be maintained must also be considered.
- A rehabilitation plan should be developed. All areas of disturbance that are not needed for operation and maintenance should be restored as closely as possible to previous conditions.

Determining the engineering design, landscape design, and visual considerations for a linear alignment must be accomplished together to ensure that all three are addressed and included in the final design solution.

LIVESTOCK GRAZING

Standard Operating Procedures

1. Allow regrowth before winter or ungrazed fall growth – recovery of root carbohydrates.
2. Usually it is necessary to protect seedings from grazing for one full year and through the growing season of the second year. Some seedings established during adverse weather cycles may need protection for a longer period.
3. Development of springs and seeps or other projects affecting water and associated resources shall be designed to maintain the associate riparian area and assure attainment of standards.
4. Adhere to guidelines listed in the State of Nevada BMPs.

Best Management Practices

1. Livestock grazing could be used as an intensively managed prescriptive grazing practice to control cheatgrass and noxious or invasive weeds.
2. In spring, graze for a short duration earlier in the season so that sufficient soil moisture remains for plant recovery.
3. Implement short duration grazing (up to 3 weeks) (more animals/smaller pastures) where infrastructure permits during the growing season. Avoid re-grazing the same plants in one growing season.
4. Rotate livestock use areas year to year - not in the same place at the same time each year.

5. Graze during the dormant season to allow plants to recover every year.
6. Allow for rest/recovery periods before or after grazing during critical growth period.
7. Maintain range developments to maintain or improve distribution.
8. Avoid use most years in areas of valuable woody plants during times when they are selected.
9. Avoid selective use on key species by rest following heavy dormant season use.
10. Graze established seedings to avoid decadent plants and poor nutrient cycles; particularly in Crested Wheatgrass seedings.
11. Avoid the following grazing management practices:
    a. Long seasonal use with no recovery time
    b. Heavy use - stresses plants,
    c. Little or no re-growth before winter - little stubble for root crown protection
    d. Use at the same time every year - repeating the stress
    e. No rest or growing season recovery - little recovery with long seasons of use
    f. Little or ineffective herding
    g. Salt placed in the same locations year after year
    h. Livestock left behind after pasture moves
    i. Grazing during the critical growth period year after year
12. Seedings generally should not be grazed until the plants are well established.
13. Use rotation or deferment to vary the timing of grazing to allow for periodic rest of upland vegetation during critical growth periods.
14. Provide occasional rest to allow whole growing season for recovery.
15. When using livestock to control cheatgrass or noxious or invasive weeds, match animal dietary preference or tolerance to the target species.
16. Use the target weed's biology when developing a grazing strategy.
17. Manage heavy grazing on target weed species to account for any intermixed desirable species.
18. Manage animals' post treatment grazing to contain weed seeds.

Best Management Practices - Vegetation/Riparian Zone Management Guidelines

1. Achieve proper functioning condition by managing livestock grazing with appropriate riparian management practices.
2. Graze earlier in the season when cattle use uplands.
3. Plants should be grazed only once or twice per year.
4. Avoid hot season grazing of riparian areas.

5. Allow re-growth before winter by grazing early enough for substantial plant re-growth during the growing season to slow spring flows and retain soil.
6. For maintenance or improvement of willows, allow two growing seasons rest prior to late season use.
7. Maintain/provide alternate water sources for better distribution.
8. In addition to the grazing management practices to avoid listed above, the following should also be avoided.
   a. Hot season grazing in big pastures with little riparian - poor distribution;
   b. Few waters and only riparian waters – poor distribution;
   c. Heavy use - stresses plants, tramples banks, and/or consumes last year's wood;
   d. Little or no regrowth before winter - little stubble for sediment.

MINERALS AND ENERGY

Actions involving minerals and energy are governed by:

1. Surface Operating Standards and Guidelines to Oil and Gas Exploration and Development" (also known as "The Gold Book") (2006).
2. Mineral Materials Disposal Handbook H-3600-1 (2002).
3. Solid Minerals Reclamation Handbook H-3042-1.
4. State of Nevada BMPs; Chapter 9 (Internet Web site: 222.ndep.nv.gov/bwqp/bmp05.htm).
5. 43 CFR 8900 et seq.

Best Management Practices - Fluid Mineral Leasing

Exploration

1. Temporary gates would be installed for use during the course of operations, unless the fence was immediately repaired. On completion of operations, fences would be restored to at least their original condition.
2. During periods of adverse conditions affecting soil moisture caused by such climatic factors as thawing, heavy rains, snow, flooding, or drought, all activities off existing maintained roads that create excessive surface rutting may be suspended.
3. Off-road vehicle travel would be limited to that necessary to complete the geophysical operations.
4. The use of specialized low surface impact equipment (wide- or balloon-tired vehicles, ATVs) or helicopters may be required for any activities in off-road areas to protect the fragile soils or other resource values.
5. Powder magazines would be located at least a mile from traveled roads, unless otherwise authorized after analysis or review. Loaded shot holes and charges would be attended at all times.

6. All trash, flagging, and lath will be removed and hauled to an authorized disposal site. No oil or lubricants would be drained onto the ground surface.
7. The underside of all heavy equipment must be cleaned by water before being driven onto public lands. Driving through or parking on noxious weed infestations would be avoided.
8. All topsoil from all disturbances would be stockpiled for use in reclamation projects.
9. Vegetation that is removed would be stockpiled, shredded, and used as mulch during site rehabilitation.
10. Drill hole cuttings would be returned to the hole if possible, or at a minimum, it would be raked and spread out so as not to impede regrowth of vegetation or to create erosion problems.

Pre-Construction

1. Existing roads should be used to the extent possible. Additional roads, if needed, would be kept to an absolute minimum and the location of routes must be approved by the AO before construction.
2. All access roads would be constructed and maintained to BLM road standards (BLM 1985a).
3. Off-road travel would be restricted to terrain with less than 30 percent slopes, 20 percent if highly erodible.
4. Proposed surface disturbance and vehicular travel would be limited to the approved well location and access route.

Well Pad and Facility Construction

1. Every pad, access road, or facility site must have an approved surface drainage plan.
2. Drainage from disturbed areas would be confined or directed so that erosion of undisturbed areas would not be increased.
3. No runoff water (including that from roads) would be allowed to flow into intermittent or perennial waterways without first passing through a sediment-trapping mechanism. Erosion control structures may include water bars, berms, drainage ditches, sediment ponds, or devices.
4. Access road construction for exploratory wells should be planned such that a permanent road could later be constructed in the event of field development.
5. Construction of access roads on steep hillsides and near watercourses would be avoided where alternate routes provide adequate access.
6. Access roads requiring construction with cut and fill would be designed to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill material would be deposited, resource concerns, and visual contrast.
7. Fill material would not be cast over hilltops or into drainages. Cut slope ratios should normally be no steeper than 3:1 and fill slopes no steeper than 2:1.
8. Low water crossings would be used whenever possible.

9. Well site layout should take into account the character of the topography and landform. Deep vertical cuts and steep long fill slopes should be avoided. All cut and fill slopes should be constructed to the least percent slope practical.
10. Trash would be retained in portable trash cages and hauled to an authorized disposal site for disposal. Burning would not be allowed on the well site.
11. Cattle guards would be installed and maintained whenever access roads were through pasture gates or fences. Maintenance includes cleaning out under cattle guard bases, when needed.
12. Mud, separation pits, and other containments used during the exploration or operation of the lease for the storage of any hazardous materials would be adequately fenced, posted, or covered.

Utilization

1. Operations would be done in a manner that prevents damage to or interference or disruption of water flows and improvements associated with all springs, wells, or impoundments.
2. Companies controlling roads that provide access into crucial wildlife areas may be required to close the road with a lockable gate to prevent general use of the road during critical periods of the year when resource problems are experienced (for example, during hunting seasons and winter).
3. The use of closed road segments would be restricted to legitimate authorized agents of the lessee or their subcontractor(s), the land managing agency, and other agencies with a legitimate need (for example, NDOW and other law enforcement agencies).
4. Closing and reclaiming unnecessary roads may be required to reduce fragmentation and restore habitat integrity, while reducing the potential for wildlife disturbances.
5. Road closures may be implemented during crucial periods (e.g., wildlife winter periods, spring runoff, calving and fawning seasons, saturated soil conditions).
6. Petroleum products, such as gasoline, diesel fuel, helicopter fuel, crankcase oil, lubricants, and cleaning solvents used to fuel, lubricate, and clean vehicles and equipment would be stored in approved containers.
7. Hazardous materials would be properly stored in separate containers to prevent mixing, drainage, or accidents. Hazardous materials would not be drained onto the ground or into streams or drainage areas.
8. Totally enclosed containment would be provided for all solid construction waste. Trash, garbage, petroleum products, and related litter would be removed to an authorized sanitary landfill approved for the disposal of these classes of waste.

RENEWABLE ENERGY

Standard Operating Procedures

1. Authorize ROWs by applying appropriate BMPs (BLM Wind Energy Development EIS, June 2005), land use restrictions, stipulations, and mitigation measures.
2. An Environmental Assessment is required for applications for monitoring sites in known Sage-Grouse Population Management Units.

TRANSPORTATION AND ACCESS

Standard Operating Procedures

1. Continue coordination with counties and other agency road entities to promote utilization of Best Management Practices for road maintenance they perform within WDO boundaries.
2. Maintain an inventory of existing road and trail systems.
3. BLM Manual 9113.16 and BLM Handbook 9113-2 will be used to guide all maintenance and road construction designs and requirements. Include definitions for functional road classification and maintenance levels for Bureau roads.
4. All highway ROWs and other road authorizations would contain noxious and invasive weed stipulations that include prevention, inventory, treatment, and revegetation or rehabilitation. Road abandonment would include at least three years of post abandonment monitoring and treatment.

Best Management Practices

1. In order to ensure public access and safety, BLM WDO shall continue an active road maintenance program employing the use of redesign, blading, brush removal for sight distance as appropriate, scarification, graveling, water barring, low water crossings, spur ditching, seeding and installation /cleaning of culverts.
2. National Environmental Policy Act (NEPA) Requirements – No new NEPA analysis would be required for road maintenance activities within the defined maintenance disturbance/easement footprint, which is defined as previously disturbed or maintained. Disturbance outside of the defined maintenance disturbance/easement footprint or road realignment would be subject to additional NEPA compliance.

LANDS AND REALTY

Standard Operating Procedures

Power lines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Power Lines, The State of the Art in 1996," (Avian Power Line Interaction Committee (APLIC), 1996, Edison Electric Institute and the Raptor Research Foundation, Inc., Washington, D.C.). Right-of-way applicants shall assume the burden and expense of proving that proposed pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer.

ROWs and other lands and realty authorizations, including power lines, pipelines, transmission corridors, energy development sites and related development, and gravel pits, would contain noxious and invasive plant management terms or stipulations for all ground-disturbing actions. These would include conducting a pre-disturbance noxious weed inventory, designing to avoid or minimize vegetation removal and weed introduction or spread, managing weeds during the life of the ROW or authorization to prevent or minimize weed introduction or spread, abandoning the ROW or authorization to establish competitive vegetation on bare ground areas, and monitoring revegetation success and weed prevention and control for a reasonable number of years.

Best Management Practices

Coordinate with the NDOW early in the sale process on proposals to sell public land encumbered by a small capacity wildlife water development.

RECREATION

Guidance for recreation use can be found in the Land Use Planning Handbook H-1601-1 Appendix C Section II-C; the Recreation Permit Administration Handbook H-2930-1 and 3 CFR 2930.

Special Recreation Permits would contain noxious weed management stipulations (e.g., pre-event inventories to avoid infested areas, event management to avoid or isolate activities that could cause weed introduction or spread, monitoring and treatment of infestations exacerbated by the activity, and other appropriate noxious weed management stipulations).

Lands may be temporarily closed to other uses during recreation performed under a special recreation permit (e.g., equestrian endurance rides or motorcycle events).

WILDERNESS STUDY AREAS and LANDS with WILDERNESS CHARACTERISTICS

Standard Operating Procedure

All Wilderness Study Areas (WSAs) will be managed in accordance with the Interim Management Policy and Guidelines for Lands under Wilderness Review H-8500-1 (IMP).

Standard Operating Procedures and Best Management Practices - Wildlife Damage Management Activities

1. APHIS-WS will notify the WD before any control activity is implemented in a wilderness area to ensure that all proposed actions are in accordance with BLM 6300 Wilderness Regulations and BLM Manuals H-8560 and 8560-1.
2. District-wide wilderness maps will be used for general reference. Maps with a scale of at least one-half inch to the mile will be used in the field during APHIS-WS activities to determine wilderness boundaries.
3. Wildlife damage control in BLM Wilderness Areas may be necessary to protect federally listed threatened or endangered species, to prevent transmission of diseases or parasites affecting other wildlife and humans, to manage reintroduced indigenous wildlife species, or to prevent serious losses of domestic livestock. Control of nonindigenous species also may be necessary to reduce conflicts with indigenous species. Acceptable control measures include lethal and nonlethal methods, depending on need, justification, location, conditions, efficiency, and applicability of state and federal laws. These control measures must be consistent with Section 4(c) of the Wilderness Act of 1964 to ensure that prohibited uses are avoided and must be the minimum amount of control necessary to resolve wildlife damage problems. APHIS-WS, BLM, NDOW (or other approved state agency) will implement control measures, in accordance with cooperative agreements or memoranda of understanding.
4. Wildlife damage control measures involving the use of motorized vehicles, motorized equipment, or mechanical transport in wilderness areas must be approved by the WD on a case-by-case basis.
5. Toxicants and M-44 cyanide devices are not allowed in wilderness areas.
6. Interim Management Policies must be adhered to at all times in WSAs, and the WD must be notified before any WDM activity is implemented. WDM activities in Wilderness Areas and WSAs must be directed at the offending animal.

PUBLIC HEALTH AND SAFETY

Standard Operating Procedures and Best Management Practices - Wildlife Damage Management Activities

1. No control is allowed on public lands within a mile of any community, major mine, developed recreation site, or any residence, except for the purpose of human health and safety or as requested specifically by a cooperator. APHIS-WS will notify the WD before any damage control is implemented within the restricted area(s), and exceptions would be approved on a case-by-case basis. No M-44s or other nonspecies-specific toxicants are to be used within these areas, in accordance with EPA label use restrictions (that is, seven miles).
2. Control activities, such as distance and signs, next to state or federal highways and county-maintained roads must be consistent with the NDOW trapping regulations.
3. All EPA use restrictions and requirements for toxicants are to be followed where control devices are used on public lands. The WD must be notified before any toxicants are deployed, and a map of the treatment area must be provided. Adequate signs must be provided and maintained.
4. All equipment (including traps, snares, and M-44s) and warning signs will be removed from bird-hunting areas, identified in coordination with NDOW, no later than one week before the opening day of the hunting season.
5. The WD will identify through the APHIS-WS annual work plan process other areas of public lands considered special resource use areas on which control activities must be avoided, except as requested by NDOW, or other protective restrictions may apply. Examples are special status species habitats (e.g., sage-grouse leks and nesting areas).

SUMMARY

The BMPs/SOPs listed in this handbook are not "one size fits all" and do not encompass all the effective BMPs/SOPs currently required and/or available. These BMPs/SOPs expand and supplement the basic guidelines and minimum requirements of the BLM Manuals; Practices Regulations. However, several common themes related to the mitigation of environmental impacts were expressed throughout the previous sections. They include:

1. The need for proper planning related to timing, spatial extent, and duration are critical to minimize environmental impacts.
2. The value of consulting with specialists (e.g. cultural resource offices and weed managers) to make educated and accurate management decisions.
3. The importance of considering more than one factor (e.g. wildlife, water quality.) when developing and/or implementing management activities.
4. The necessity of contingency revegetation plans in cases where natural reestablishment of native vegetation may not be feasible due to lack of seed source or impacts from competing non-native/invasive vegetation.
5. The need to give special emphasis to the protection of sensitive resources (e.g. listed species habitats, cultural resources, etc.).
6. The importance of developing inventory and monitoring strategies.

Regardless of the project proposed or outcomes desired, managers involved in integrated vegetation management should consider these six thematic best management practices as well as the protection of human health and safety throughout all stages of planning and implementation.

SOURCES & GENERAL REFERENCES

The following list identifies additional resources that BLM may consult, on a case-by-case basis, for additional BMP guidance applicable in the WDO planning area:

Instruction Memorandums and Technical Documents

BLM Instruction Memorandum No. 2007-021. Integration of Best Management Practices into Application for Permit to Drill Approvals and Associated Rights-of-Way.

BLM Best Management Practices (BMPs) Information Sheets (2004). (http://www.blm.gov/style/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/bmps.Par.73748.File.dat/WO1_WO_BMPs_Technical_Information_Sheets.pdf)

Land Use Planning

BLM, Record of Decision - Implementation of a Wind Energy Development Program and Associated Land Use Plan Amendments, (December 2005). http://www.windeis.anl.gov/documents/ docs/WindPEISROD.pdf

BLM, Final Programmatic EIS Record of Decision to Evaluate Wind Energy Development on Western Public Lands Administered by the Bureau of Land Management (2005).

BLM, Record of Decision for Vegetation Treatment on BLM Lands in Seventeen Western States (2007).

Manuals and Handbooks

BLM Manual 9113.16

BLM Handbook 9113-2

EPA, Inactive Mine Site Characterization and Cleanup Handbook, EPA 910-8-00-001, U.S. EPA, August 2000

Nevada Division of Environmental Protection and the Nevada Division of Conservation Districts, Handbook of Best Management Practices (1994).

State of Nevada Best Management Practices Handbook (1994)

Reports

BLM, Programmatic Environmental Report for Vegetation Treatments on BLM land (2005)

EPA, Drinking Water Academy Bulletin, Managing Septic Systems to Prevent Contamination of Drinking Water, July 2001, EPA-816-F-01-030

USDA FS, Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, General Technical Report SRS-39, September 2000

Standards and Guidelines

BLM Visual Resource Management for Fluid Minerals. Best Management Practices/Participants Notebook Field Reference Guide, 2007.

BLM and US Forest Service, Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (commonly referred to as The Gold Book). 4th edition, 2007.

General Water Quality Best Management Practices, Pacific Northwest Region, U.S. Forest Service, November 1988

Low-Volume Roads Engineering, Best Management Practices Field Guide. Developed by Gordon Keller & James Sherar.

Nevada Northeastern Great Basin Resource Advisory Council (RAC). Standards and Guidelines for Management of Wild Horses and Burros of the Sierra Front-Northwest Great Basin Area

Nevada Northeastern Great Basin Resource Advisory Council (RAC), the Sierra Front Northwestern Great Basin RAC, and the Mojave-Southern Great Basin RAC, as chartered by the Department of the Interior. 2007. OHV Administration Guidelines for Nevada Public Lands, http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guidelines.html. Accessed October 22, 2007

RAC Standard and Guidelines for Rangeland Health. http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html

Standards and Guidelines for Management of Wild Horses and Burros of the Sierra Front-Northwest Great Basin Area.

Standards and Guidelines for Livestock Management in the Nevada's Sierra Front-Northwestern Great Basin Area

State of Nevada Best Management Practices Handbook: http://ndep.nv.gov/bwqp/bmp05.htm

U.S. Dept. Transportation, Best Management Practices for Erosion and Sediment Control (current edition).

Low-Volume Roads Engineering, Best Management Practices Field Guide, (2003) developed by Gordon Keller & James Sherar of the US Forest Service. This document presents recommended practices for low-volume roads (defined as having an average daily traffic (ADT) of less than 400 vehicles per day, and usually has design speeds of less than 50mph.

Useful Web sites:

http://www.epa.gov/air/criteria.html

http://ndep.nv.gov/baqp/baqpollu.html

http://ndep.nv.gov/bwqp/bmp05.htm

APPENDIX C

BLM PROPOSED SPECIAL RECREATION MANAGEMENT AREAS AND RECREATION MANAGEMENT ZONES

APPENDIX C

BLM Proposed Special Recreation Management Areas and Recreation Management Zones

Introduction

The BLM will manage for the setting prescriptions described in each of the Natural Resources Recreation Settings section for the individual Special Recreation Management Areas and Recreation Management Zones. To the extent possible, the natural or remote settings in the Primitive, Pristine, and Back Country designations will be restored, rehabilitated, and maintained using a combination of projects and natural processes as the need or opportunity arises.

Signing and Recreation Facilities

All recreation facilities will be maintained to ensure a safe, clean, and functional state for their intended use and purpose.

Recreational facilities, such as visitor contact facilities, parking areas, camp areas, trail heads, sanitary facilities, and kiosks, will be developed through the NEPA process and by working with other state, county, city, and federal agencies and the private sector.

Within SRMAs, the level and types of signs and recreation facility development will be guided by the individual RMZ objectives and the physical settings prescribed for each RMZ.

Signing and recreation facility development in the allocated ERMAs will be the minimum necessary to provide for public safety, to reduce user conflicts, and to protect natural and cultural resources.

Sign material and design will be unobtrusive in order to blend with local landscape settings and to retain the natural and historic integrity.

Recreation Marketing Actions

Promotion

Sensitive areas where increased visitation can create unacceptable changes or impacts to natural or cultural resources will not be publicly promoted. All marketing efforts will be appropriate for the ROS class of each of the specific Recreation Management Zones.

Where appropriate and on demand, the BLM will publicize recreation information through maps, brochures, publications, and other media to ensure public awareness of available recreation opportunities, to promote public health and safety, and to prevent resource deterioration.

Recreation Monitoring Actions

Inventory and Monitoring

Impact patterns and trends will be assessed periodically to ensure that uses in various RMZs are consistent with their prescribed Recreation Opportunity Class and their corresponding recreational opportunities and experiences.

A Limits of Acceptable Change framework will be used to establish acceptable resource and social and managerial settings and conditions, using appropriate indicators and standards.

The monitoring strategy would include collecting data on visitor use and satisfaction, vehicle counts, and user conflicts. Emphasis also will be placed on the following:

- Monitoring the need for future vegetation and scenic values;
- Ensuring that designations minimize harassment of wildlife and significant disruption of wildlife habitat;
- Protecting endangered or threatened species and their habitat; and
- Wilderness—Designations must not impair the wilderness suitability of lands under consideration for inclusion in the wilderness system (WSAs).

In addition, the designation of roads, trails, and areas must take into account user access requirements, public safety, and conflict resolution.

The following criteria are used to ensure adequate consideration for the requirements for each resource activity, for example minerals, range, and recreation:

- Operational needs—Designations must consider user access requirements for inventory, exploration, use supervision, maintenance of facilities, development, and extraction of public land resources;
- State and private lands—Designations must consider the access and use needs for roads and trails within intermingled state and private lands;
- Hazards—Designations must eliminate, mitigate, or minimize travel in areas of extreme natural or man-made hazards and separate uses in situations where safety factors present unacceptable risks, for example in rifle ranges, open mines, and proposed campgrounds; and
- Conflict resolution—Designations must ensure full consideration of the multiple-use value of public lands, facilities, and the condition of existing recreational facilities.

Recreation Administrative Actions

Visitor Limits and Regulations

Visitor limits, supplemental rules, or restrictions will be based on Limits of Acceptable Change, and they will be instituted or adjusted when resource and social conditions monitoring indicate a trend toward unacceptable changes.

Recreation may be limited or restricted in special status species habitat and areas of cultural concern.

Management responses to unacceptable resource or social conditions will range from least restrictive methods (information and education) to more restrictive measures (visitor limits, supplemental rules, or restrictions). Where feasible, education will be the first priority.

Travel Management Areas

The criteria and decision making process for TMAs determines the designations for OHV trails, including trail additions or closures. Considerations of both social and physical elements will be used to define the criteria for a travel plan. The social elements include the following:

- Public demands;
- Historical uses;
- Existing rights-of-way;
- Permitted uses;
- Public access;
- Resource development;
- Law enforcement;
- Safety;
- Conflicts between existing and potential uses;
- Recreational opportunities;
- Local uses;
- Cultural uses; and
- Economic use.

The physical elements include the following:

- Terrain;
- Soils;
- Water and watersheds;
- Route connections;
- Special designations (ACECs and WSAs);
- Demands for specific types of vehicle uses; and
- Manageability.

All decisions made in this process will apply only to public lands managed by the BLM in the WDO and will recognize current, valid, and existing rights. Decisions regarding OHV travel will be consistent with the BLM's National OHV Strategy.

In general, policy guidance in 43 CFR 8343.1 (C) lists the OHV designation criteria that the BLM must meet in the travel planning process:

- Cultural and natural resources—Designations must minimize damage to all cultural and natural resources, such as historical and archaeological sites and soil, water, air, vegetation, and scenic values;

- Wildlife—Designations must minimize harassment of wildlife and significant disruption of wildlife habitat;
- Endangered species—Special attention must be given to protect endangered or threatened species and their habitat; and
- Wilderness—Designations must not impair the wilderness suitability of lands under consideration for inclusion in the wilderness system (WSAs).

In addition, the designation of roads, trails, and areas must take into account user access requirements, public safety, and conflict resolution. The following criteria are used to ensure adequate consideration for the requirements for each resource activity, such as minerals, range, and recreation:

- Operational needs—Designations must consider user access requirements for inventory, exploration, use supervision, facilities maintenance, and public land resources development and extraction;
- State and private lands—Designations must consider the access and use needs for roads and trails within intermingled state and private lands;
- Hazards—Designations must eliminate, mitigate, or minimize travel in areas of extreme natural or man-made hazards and uses in situations where safety factors present unacceptable risks, for example in rifle ranges, open mines, and proposed campgrounds; and
- Conflict resolution—Designations must ensure full consideration of the multiple-use value of public lands.

Nightingale SRMA-Proposed Recreation Management Zones

Nightingale Special Recreation Management Area

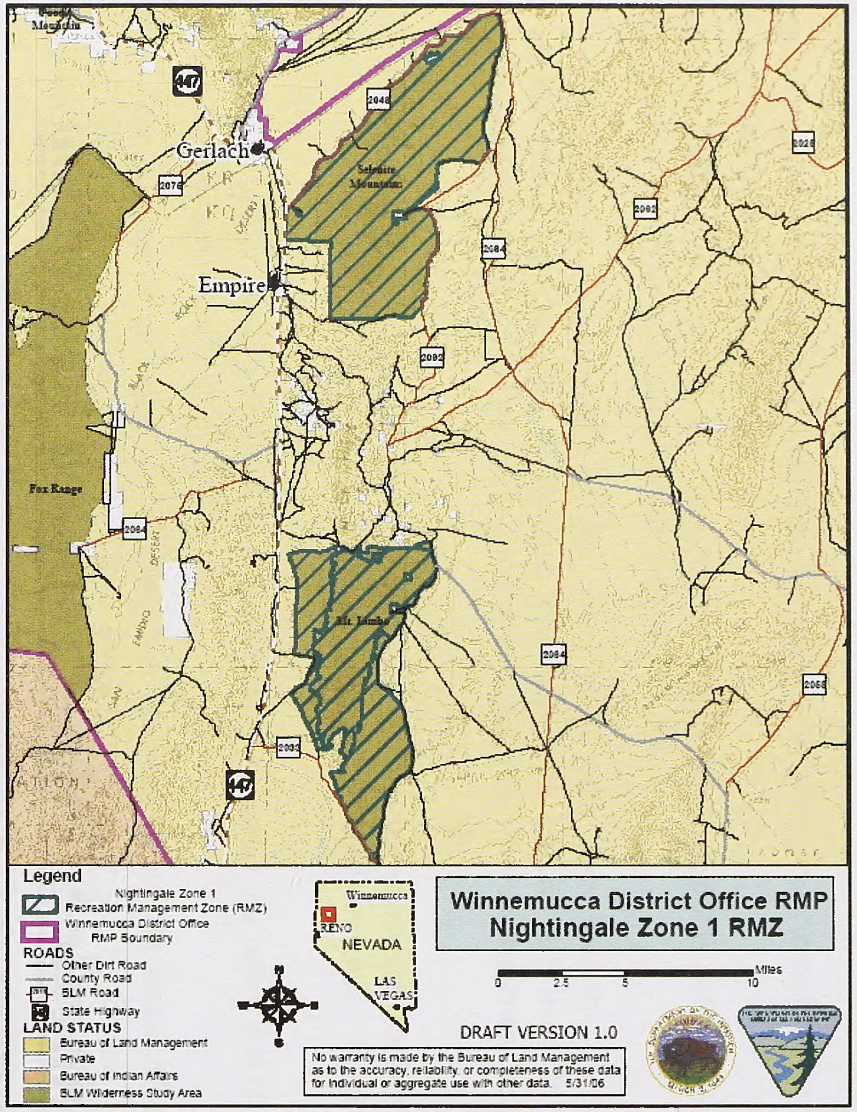
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own* to travel with the freedom to *"Build their own*

Zone 1 RMZ: Selenite Mountains WSA (32,041 acres) & Mount Limbo WSA (23,702 acres)

NICHE
Self directed recreational adventure, challenge, & exploration in rugged & natural terrain

MANAGEMENT OBJECTIVE
To provide opportunities for residents and seasonal regional visitors to engaged in a variety of recreational activities in a manner that maintains the area's suitability for preservation as wilderness

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Hiking 2) Camping 3) Nature viewing 4) Horse back riding 5) Hunting 6) Family, friend, & community outings	Enjoyment derived from: 1) Challenge & adventure 2) Developing outdoor skills & abilities 3) Remote access to natural landscapes 4) Spending outdoor time with friends and family 5) Escape from social pressures 6) A greater sense of independence	Personal: Physical fitness and well being. Personal growth & development Community/Social: Promotes appreciation for the area & an outdoor ethic of the western public lands Environmental: Promotion of stewardship, husbandry, and conservation & protection of Nevada's public lands Economic: Contributes to the local, regional & national economic stability by encouraging business for out fitters, guides & equipment manufactures



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site	Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Nightingale Special Recreation Management Area

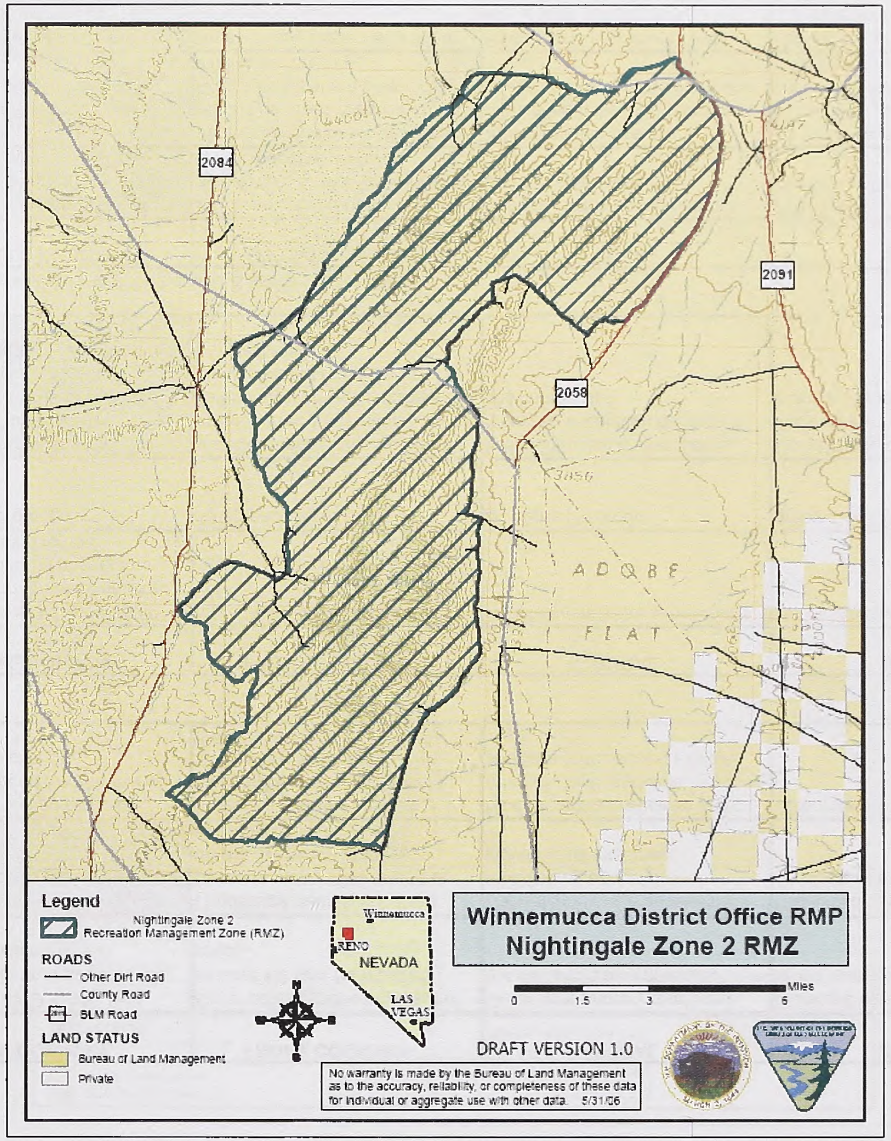
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own adventure"*

Zone 2 - Natural RMZ: Blue Wing & Shawave Mountains (acres)

NICHE
Self directed recreational trekking, adventure, challenge, & exploration in rugged & natural terrain that is remote & largely accessible by foot only.

MANAGEMENT OBJECTIVE
To provide opportunities for residents and seasonal regional visitors to engaged in rugged recreational activities in a near-wilderness setting without the complex restrictive philosophy of "Wilderness".

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Hiking 2) Camping 3) Nature viewing 4) Scenic vistas	Enjoyment derived from: 1) Challenge & adventure 2) Developing outdoor skills & abilities 3) Remote access to natural landscapes 4) Solitude, freedom, & independence	Personal: Physical fitness and well being. Personal growth & development Community/Social: Promotes appreciation for the area & an outdoor ethic of the western public lands Environmental: Promotion of steward-ship, husbandry, conservation & protection of Nevada's public lands Economic: Contributes to the local, regional & national economic stability through recreation & tourist related income.



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road		More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape			Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None			Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day			3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group			4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter			Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None			Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site			Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare			Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Nightingale Special Recreation Management Area

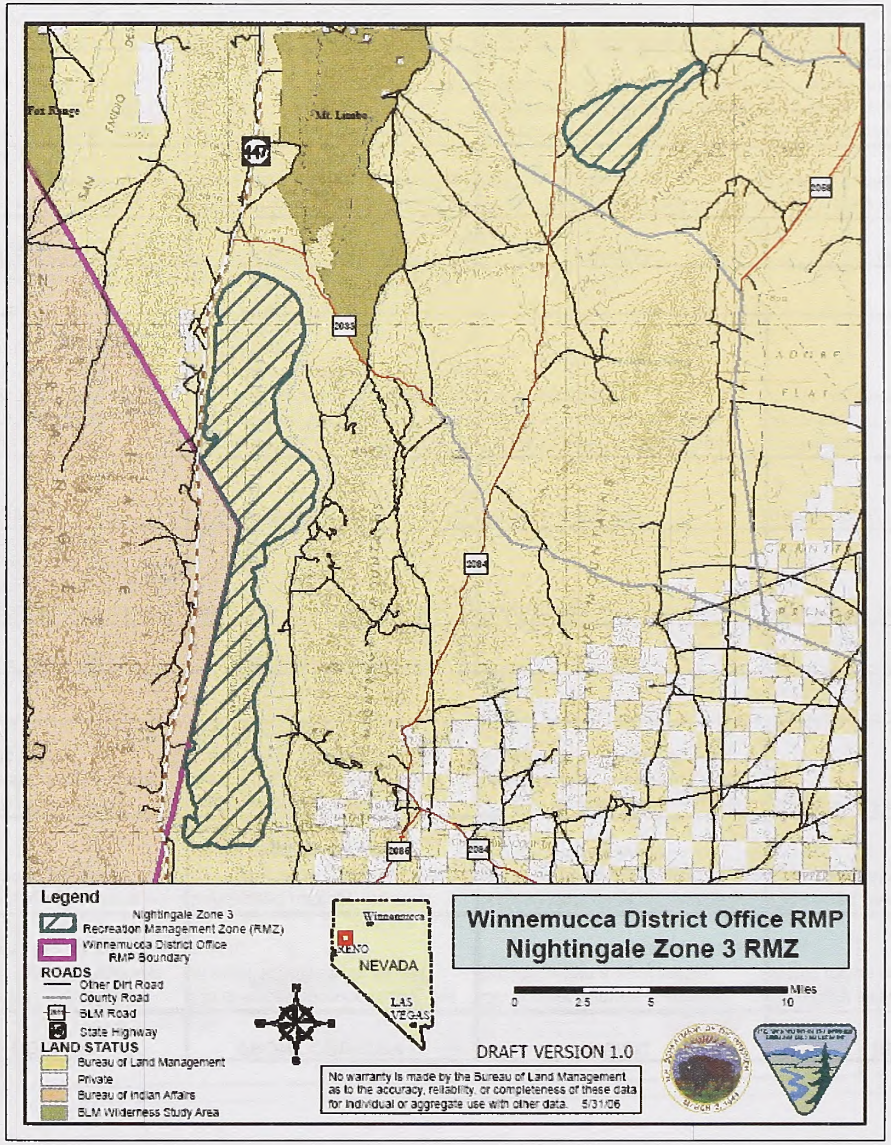
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own adventure"*

Zone 3 RMZ: Blue Wing / Winnemucca Lake Playas (acres)

NICHE
xx acres of dry lake bed assessable late spring through early fall. These playas are among the flattest natural features on earth, & as such they provide for diverse recreational opportunities unavailable else where in a natural setting.

MANAGEMENT OBJECTIVE
To provide opportunities for residents and seasonal regional visitors to engage in recreational activities in a remote natural setting in such a way (permits and use agreements) that inspires, instructs, & educates participants in the ways of preserving these geologic phenomenom & surrounding environments

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Individual participation in activities such as camping, land sailing & ATV riding. 2) Large group, competitive & commercial events such as land speed records, 'art' gatherings, community 4th of July celebrations, & high powered rocketry	Enjoyment derived from: 1) Seeking spiritual revival 2) Exploring artistic expression 3) Wandering in extensive open landscapes 4) Solitude 5) Pushing personal limits 6) Being in a place where there is nothing that naturally exists that contradicts the reality you wish to construct	Personal: Personal growth & development Community/Social: Promotes appreciation or a sense of place within the western public lands Environmental: Promotion of stewardship, husbandry, conservation & protection of a playa surface & its surrounding environment Economic: Contributes to the local & regional economic stability by increasing tourist based income and reducing enforcemnt and clean up costs.



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road		More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
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Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day			3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group			4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter			Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None			Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
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MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare			Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Nightingale Special Recreation Management Area

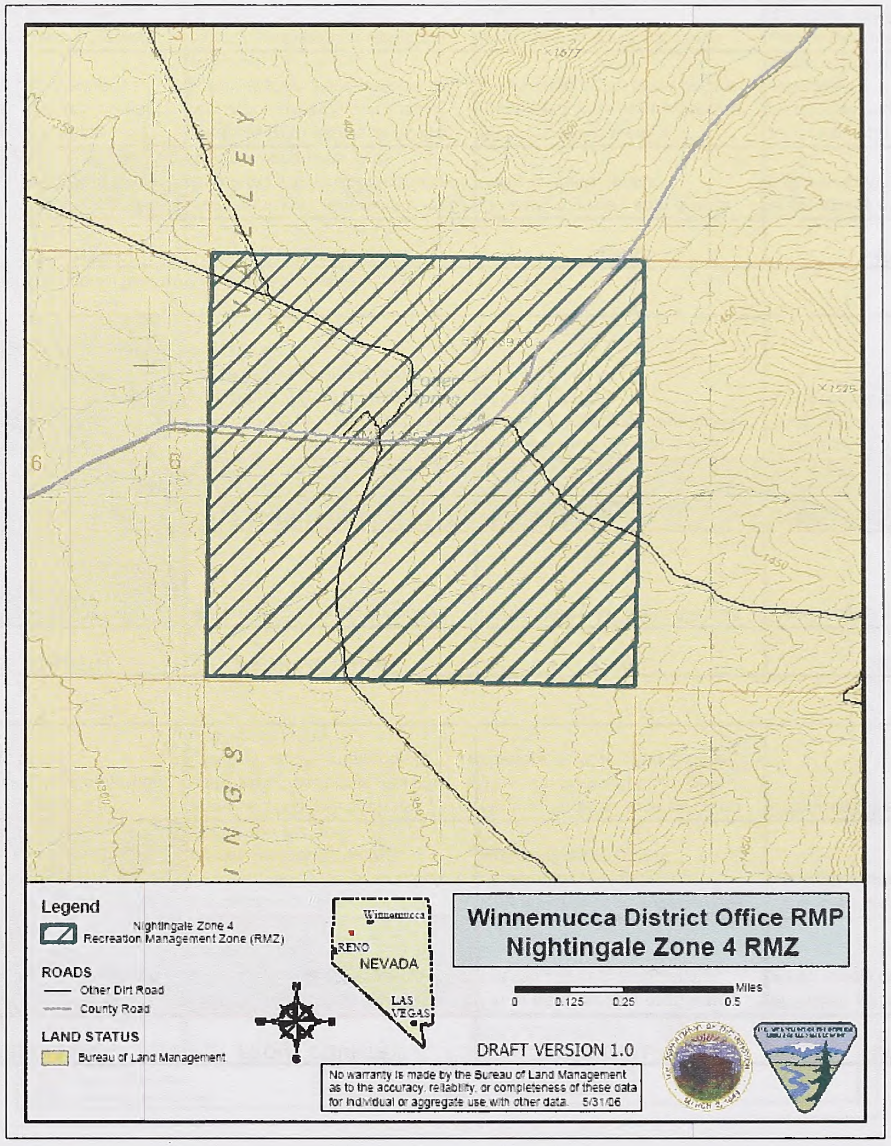
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own adventure"*

Zone 4 - Porter Springs (Approx. 600 acres)

NICHE
A desert 'oasis' with tall trees & fresh water springs, Porter Springs offers local & visiting tourist an opportunity to view wild horses & burros and a variety of migratory birds. This site is also representative of mid-twentieth century mining activity.

MANAGEMENT OBJECTIVE

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Camping 2) Bird watching 3) Wild horse & burro viewing 4) Visit old mining site	Enjoyment derived from: 1) Viewing wildlife in a natural setting 2) Escape from urban environment 3) Group affiliation with family & friends 4) Exploring Nevada history	Personal: Develop outdoor skills, knowledge, self reliance & awareness of the unique qualities & nature of the Nevada landscape & wildlife Community/Social: Promotes an appreciation for the unique wildlife & mining history of Northern Nevada. Environmental: Promotes stewardship, husbandry, conservation & protection of the public lands in Nevada Economic: Contributes to the local & regional economic stability by attracting 'heritage' tourist & associations such as the Audubon Society



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site	Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Nightingale Special Recreation Management Area

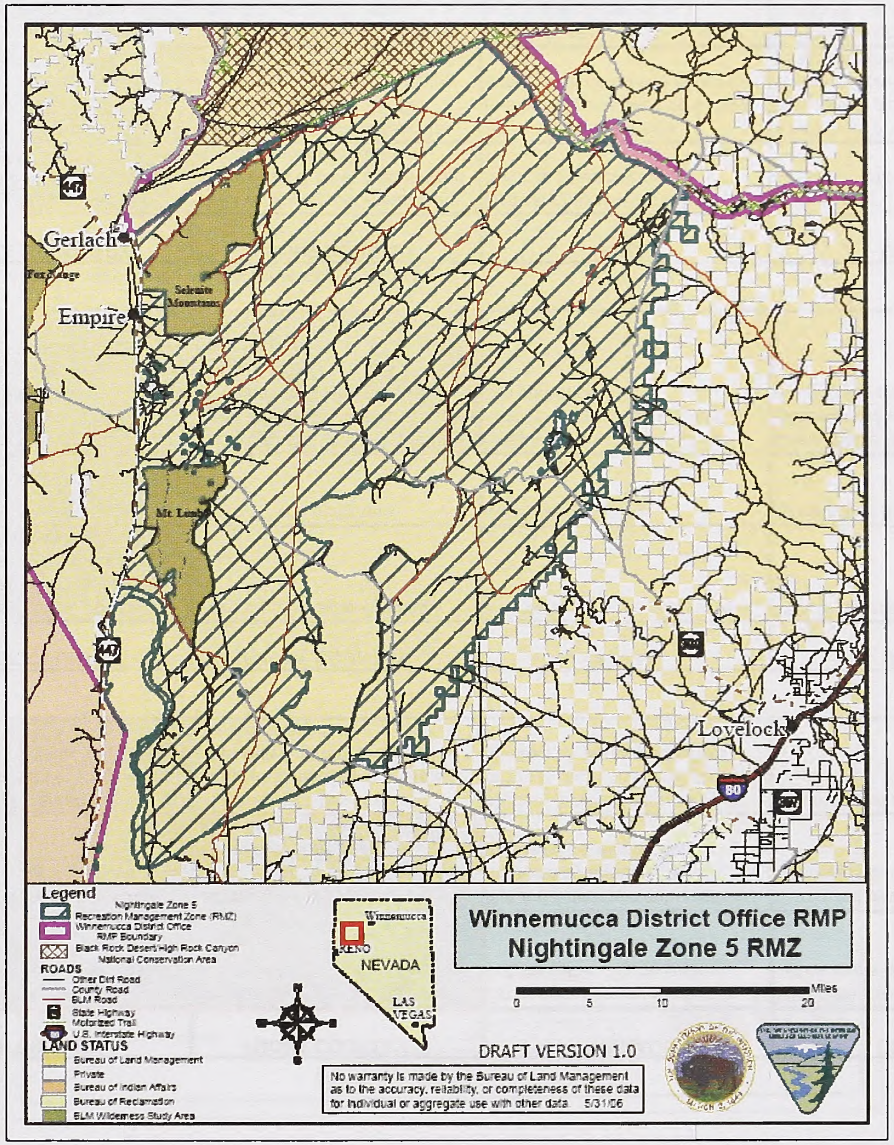
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own adventure"*

Zone 5 (acres)

NICHE
Remote motorized (on designated routes), mechanized, and non-mechanized access into scenic, natural and vast open spaces. Serves as a departure point / area for challenge, exploration and recreation in a back country and near primitive setting.

MANAGEMENT OBJECTIVE
To provide opportunities for sustainable motorized, mechanized, and non-mechanized access to back country settings, and to take advantage of the inherent opportunities for interpretation & environmental, heritage & outdoor ethics education.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) OHV, 4X4, and motorcycle travel & events 2) Hiking, camping, orienting, & hunting 3) Wildlife & scenery photography 4) Wild horse & burro viewing	Enjoyment derived from: 1) Challenge, Exploration, & Adventure - visitation requires a dependency on equipment & outdoor skills with associated challenge and risk. 2) Escape from urban environment - good opportunities for isolation, but can expect some affiliation with others. 3) Enjoy scenery and wildlife in in extensive open spaces.	Personal: Develop outdoor skills, knowledge, self reliance & awareness of the unique qualities & nature of the Nevada landscape. Community/Social: Promotes an appreciation for the outdoor life style' of Northern Nevada. Environmental: Promotes stewardship, husbandry, conservation & protection of the public lands in Nevada Economic: Contributes to the local & regional economic stability by providing support & guidance for outdoor recreation industries



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site	Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Nightingale Special Recreation Management Area

Primary Market Strategy	Market
Destination Strategy - National / Regional visitors value public lands as recreational destinations.	Outdoor enthusiast - Hikers, Campers, Hunters, OHV & Motorcycle users, Bird & Wildlife Watchers

Nightingale North Recreation Management Zone

NICHE
Remote sustainable motorized, mechanized, and non-mechanized access into scenic, natural and vast open spaces. Serves as a departure point / area for challenge, exploration and recreation in a back country and near primitive setting.

MANAGEMENT OBJECTIVE
To provide for opportunities for sustainable motorized, mechanized, and non-mechanized access to back country settings for: 1) self directed day / overnight recreation (hiking, camping, hunting, wildlife viewing); and 2) organized group, competitive, and commercial events.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) OHV, 4X4, and motorcycle travel & events 2) Hiking, camping, orienting, & hunting 3) Wildlife & Scenery photography	1) Challenge, Exploration, & Adventure - visitation requires a dependency on equipment & outdoor skills with associated challenge and risk. 2) Escape from urban environment - good opportunities for isolation, but can expect some affiliation with others. 3) Enjoy scenery and wildlife in in extensive open spaces.	Personal: 1) Develop outdoor skills, knowledge, & self reliance; 2) Develop an awareness of the unique qualities and nature of the Neveada landscape. Community/Social: Promotes an ascetic appreciation for the 'outdoor life style' of Northern Nevada. Environmental: Promotes stewardship, husbandry, and conservation / protection of the public lands in Nevada. Economic: Contributes to the local and regional economic stability.

Prescribed Setting Character		
Physical	Social	Administrative
Remoteness: On or near 4-wheel drive roads or single track trails. Naturalness:Naturally appearing landscape partially modified by roads, utility lines, etc., but overpowering the landscape Facilities: Primitive trails and routes made of native materials, and some maintained and marked trails, simple trail head developments, signs, & toilets.	Contacts: On travel routes - up to 6 encounters / day; Off travel routes - up to 1 encounter / day. Group Size: Permitted events - Greater than 50; Non-permitted goups - less than 6 / group. Evidence of Use: Vehicle tracks observed. Occasional noise & liter. Vegetation and soils becoming worn at high use areas.	Mechanized Use: Four wheel drives, all-terrain vehicles, dirt bikes, or snowmobiles in addition to non-motorized use Visitor Services: Information materials (basic maps, brochures) describe recreation area and activities. Area personnel are periodically on site. Management Controls: Occasional regulatory signing. Motorized use restrictions. Random enforcement presence.

IMPLEMENTATION STRATEGY / ACTIONS	
Administrative	
Management	
Marketing	
Monitoring	

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Winnemucca SRMA-Proposed Recreation Management Zones

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Winnemucca SRMA-Proposed Recreation Management Zones

Winnemucca Special Recreation Management Area

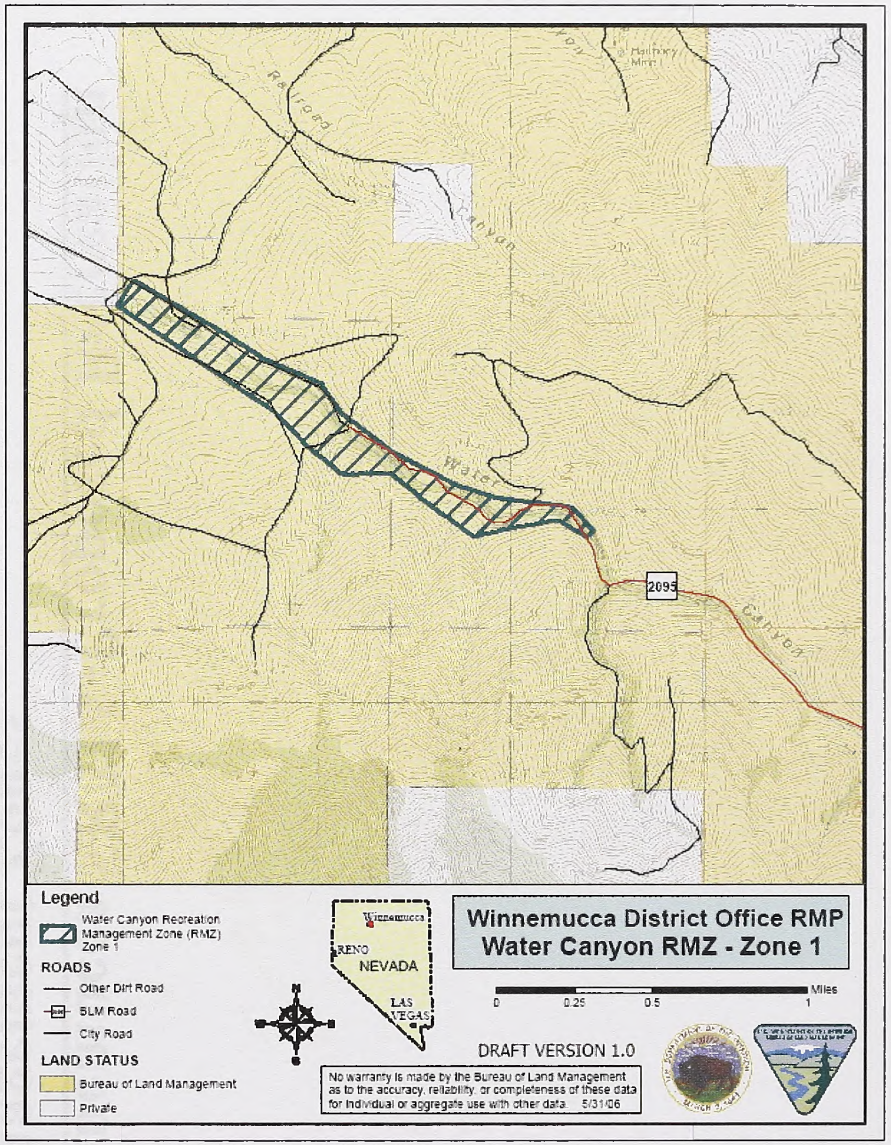
Primary Market Strategy	Market
Community Strategy - The community is is dependent on public lands for recreation related tourism use, growth, & development	Local & visiting day and overnight users

Water Canyon Recreation Management Zone 1 - Lowland

NICHE
Quick easy access from town to day use adventure & campground facilities (toilets, picnic tables, shade structures & fire rings), informational and interpretive kiosks, and hiking & mountain bike trails.

MANAGEMENT OBJECTIVE
To provide opportunities for community residents and seasonal regional visitors to engage in both day & overnight mechanized & non-mechanized recreational use (motorized travel in Zone 1 is restricted to street legal vehicles & snowmobiles on the main canyon road) while protecting and preserving water quality, wildlife, and wildlife habitat

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Mountain bike riding, walking & hiking & fitness activities 2) Interpretive trail walk 3) Community & family get-togethers 4) ATV, car, & 4-wheel touring 5) Horseback riding 6) Paintball games by permit	Enjoyment derived from: 1) Close to home outdoor activities; 2) Participating in group activities and affiliation; 3) Easy access to natural landscapes 4) Escape from daily urban environment & pressures	Personal: 1)Physical fitness and well-being 2) Respite from an urban environment 3) Participating in the community stewardship of Water Canyon. Community/Social: Promotes an appreciation for the community's dependence on public lands & fosters community pride Environmental: Promotes stewardship, husbandry, and conservation / protection of the public lands in Humboldt County Economic: The recreational developments in ths zone contributes to the tourism derived economy of Winnemucca



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen>	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site	Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Winnemucca Special Recreation Management Area

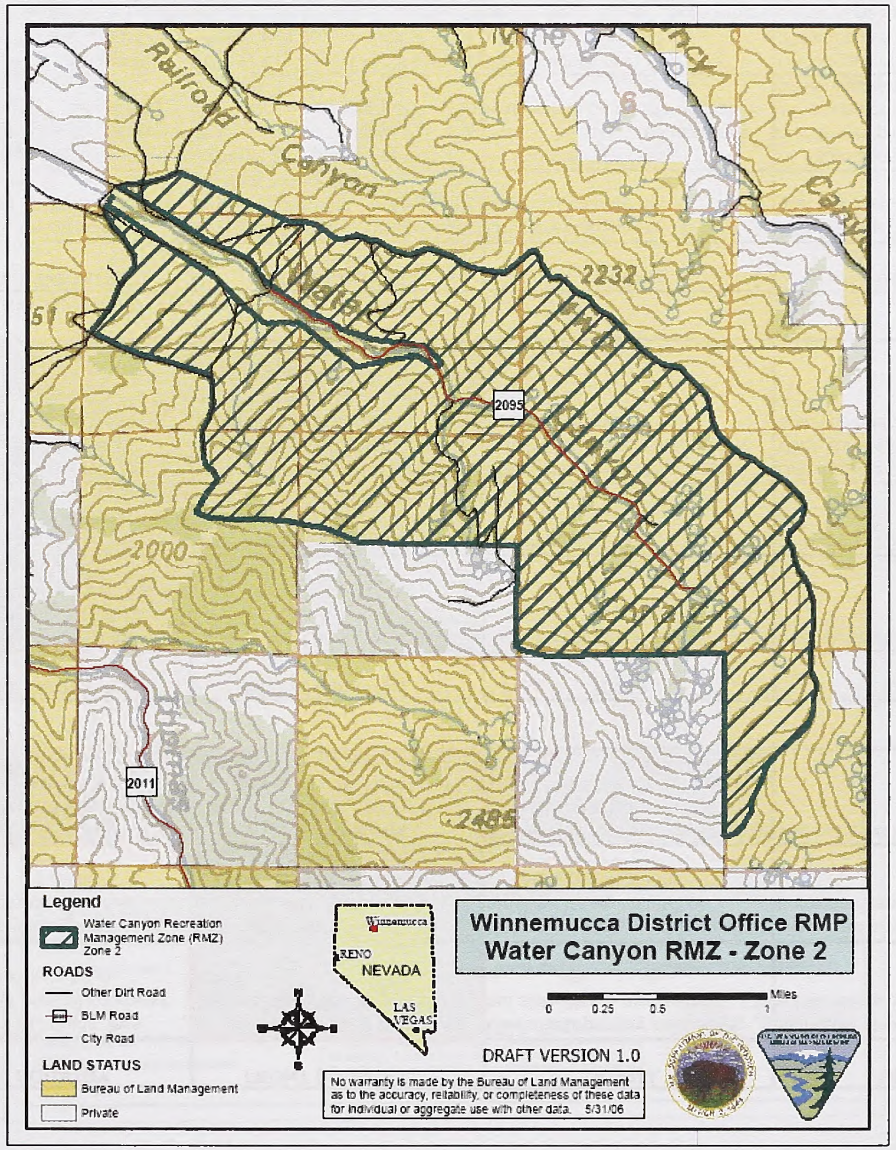
Primary Market Strategy	Market
Community Strategy - The community is dependent on public lands for recreation related tourism use, growth, & development	Local & visiting day and overnight users

Water Canyon Recreation Management Zone 2 - Upland

NICHE
Quick access from town to middle / back country recreational opportunities, challenge, adventure & exploration.

MANAGEMENT OBJECTIVE
Provide opportunities for community residents and seasonal regional visitors to engaged in mechanized & non-mechanized recreation in a middle / back country setting while protecting water quality & wildlife habitat.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Mountain bike riding, walking & hiking, X-C skiing, snow shoeing, & jogging 2) Horseback riding 3) Motorcycle & ATV use 4)Paintball games 5) Hunting	Enjoyment derived from: 1) Close to home outdoor activities 2) Easy access to rugged natural landscapes. 3) Developing outdoor skills & abilities 4) Outdoor exercise 5) Escape from personal & social pressures	Personal: 1) Improved physical fitness & mental well-being 2) Promotion of greater self reliance, appreciation & satisfaction Community/Social: Promotion for the community's dependence on public lands Environmental: Promotion of stewardship, husbandry, and conservation / protection of the public lands in Humboldt County Economic: Recreational activities (primarily hunting) in this zone contributes to the local and regional economic stability



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road		More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape			Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None			Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day			3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group			4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter			Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen>	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None			Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site			Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare			Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Winnemucca Special Recreation Management Area

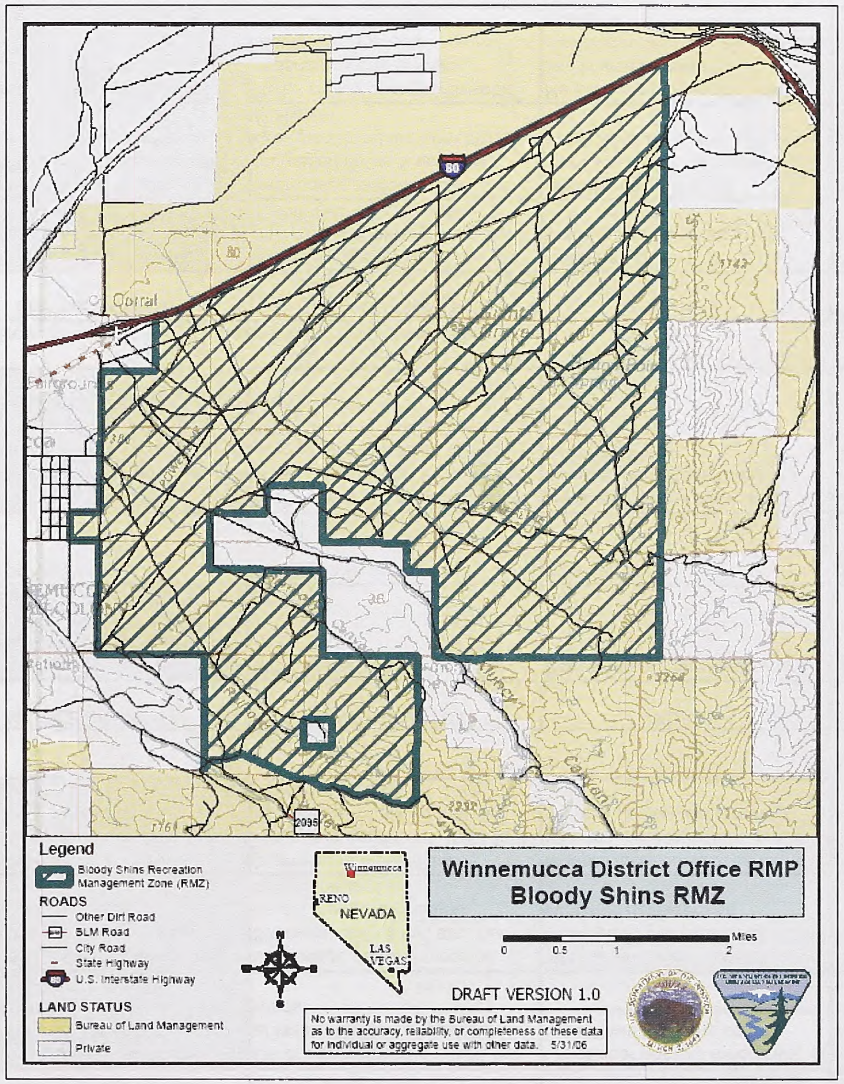
Primary Market Strategy	Market
Community Strategy - The community is is dependent on public lands for recreation related tourism use, growth, & development	Local & visiting mountain bikers, ATV riders, horse back riders, hikers, & joggers

Bloody Shins Recreation Management Zone

NICHE
The Bloody Shins trails offer quick easy access from town & 21 miles of beginner, intermediate, advance single track mountain bike trails. In addition, numerous 2-tracks & 'cow trails' in the area are also utilized for ATV use, jogging, walking pets, & horse back riding.

MANAGEMENT OBJECTIVE
To provide for opportunities for close-to-town motorized, mechanized and non mechanized recreation, & to assist, educate, & inform the general public about mountain bike & ATV ethics, impact, & responsibilities with regards to effective management of public lands.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Mountain bike riding, walking & hiking, & jogging 2) Competitive bike events 3) Community sponsored events 4) Horseback riding 5) Walking pets	1) Testing mountain bike skills, abilities, & endurance. 2) Participating in group activities and affiliation 3) Easy access to natural landscapes 4) Knowing the community & agency supports this activity 5) Escape from daily pressures 6) Learning ATV skills & abilities	Personal: 1) Develop mountain bike & ATVskills & ethics 2) Improved physical fitness, endurance & health 3) Restored mind Community/Social: Promotes an appreciation for the biking community's dependence on public lands Environmental: Promotes stewardship, husbandry, conservation / protection of the local area Economic: Bicycling is an opportune ingredient for the recreation & tourism economy (bike shops, outfitter/guides) of the Winnemucca area



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen>	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
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MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Winnemucca Special Recreation Management Area

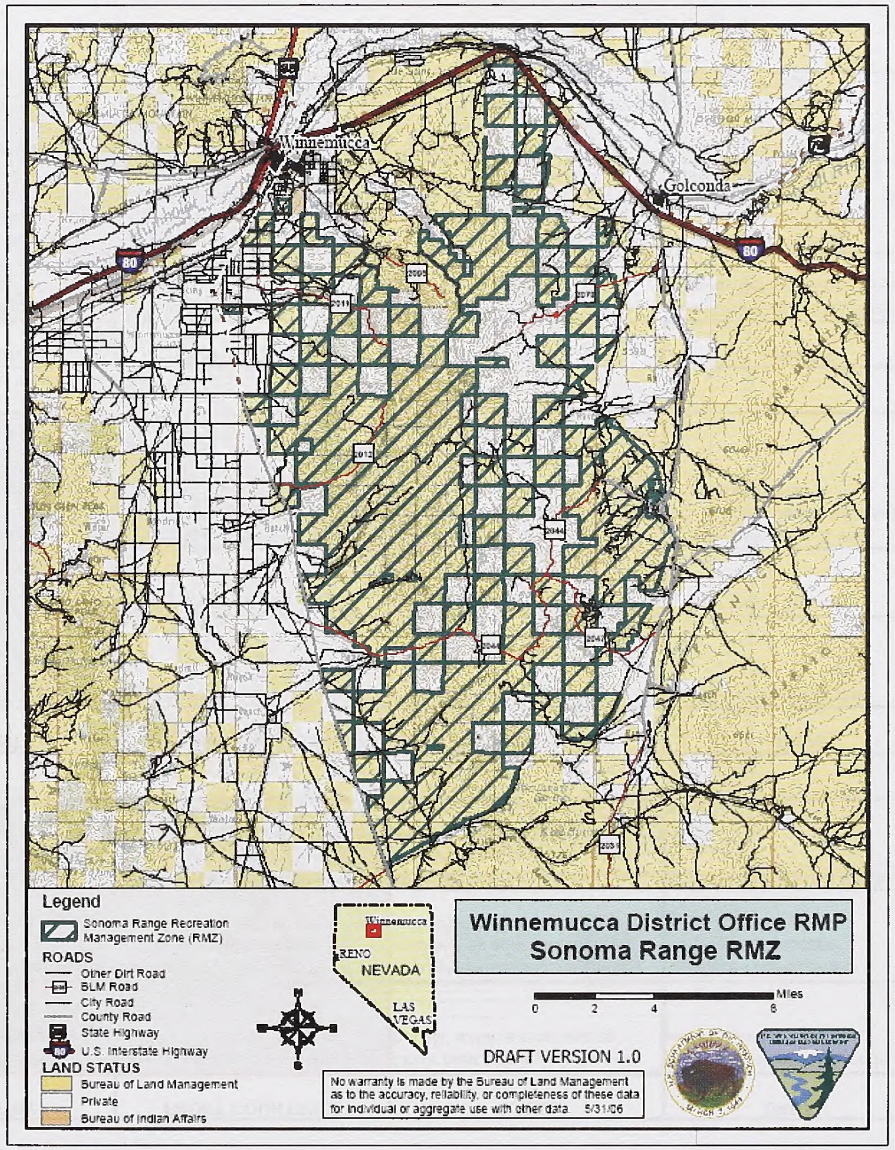
Primary Market Strategy	Market
Community Strategy - The community is dependent on public lands for recreation related tourism use, growth & development	Local & visiting day & overnight users

Sonoma Range RMZ

NICHE
Close to town motorized access for scenic natural open space appreciation & a staging area for self directed primitive mode challenge, exploration, & adventure.

MANAGEMENT OBJECTIVE
To provide opportunities for community residents and seasonal regional visitors to engaged in a variety of recreational activities in a Semi-primitive to back country setting.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Mountain bike riding, jogging, hiking & fitness activities 2) Nature viewing 3) Camping 4) Horse back riding 5) Hunting	Enjoyment derived from: 1) Close to home outdoor activities; 2) Developing outdoor skills & abilities 3) Easy access to natural landscapes 4) Spending outdoor time with friends and family 5) Escape from social pressures 6) A greater sense of independence	Personal: Physical fitness and wellbeing. Personal growth & development of out-door skills Community/Social: Promotes appreciation for the community's dependence on public lands for sustainable recreation Environmental: Promotion of stewardship, husbandry, conservation & protection of local public lands Economic: Contributes to the local and regional economic stability



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day		3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group		4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter		Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None		Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site		Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare		Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Winnemucca Special Recreation Management Area

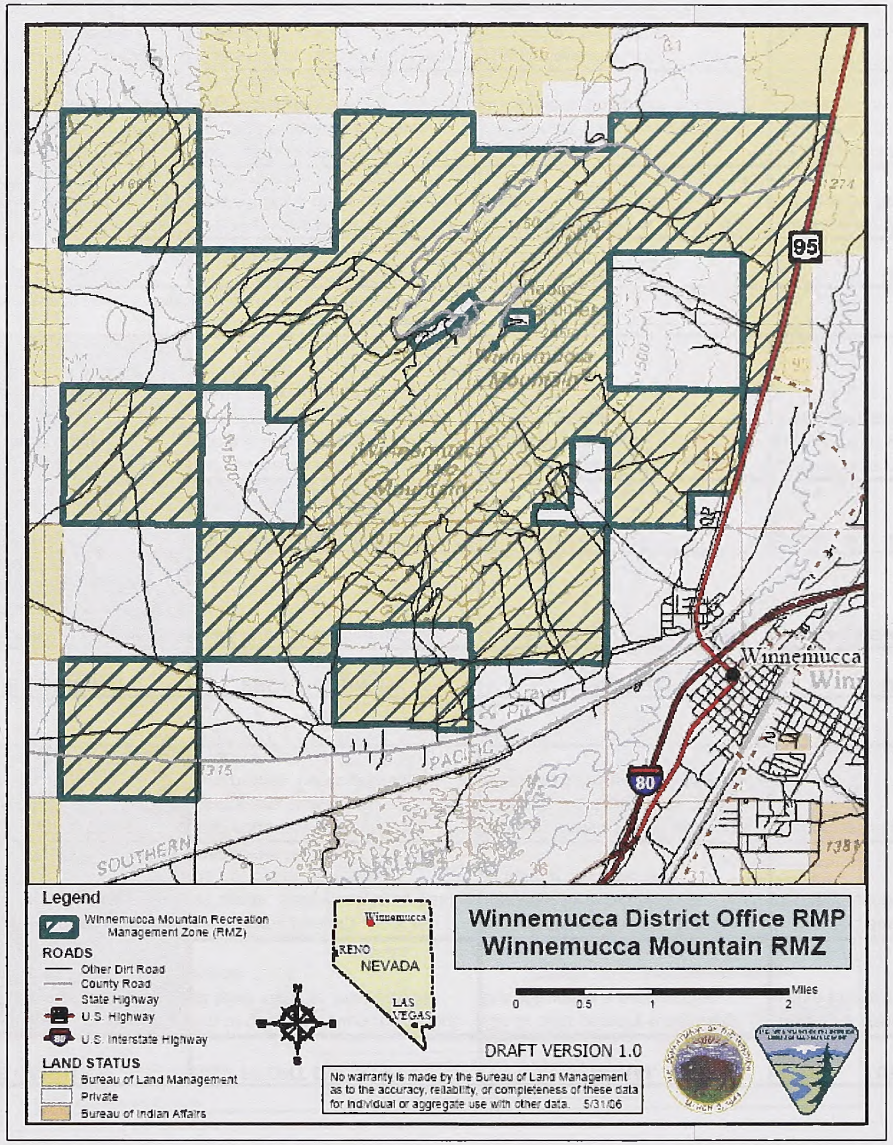
Primary Market Strategy	Market
Community Strategy - The community is dependent on public lands for recreation related tourism use, growth & development	Local & visiting day users

Winnemucca Mountain RMZ

NICHE
Paved access to the top Winnemucca Mountain (el. 6742 ASL) allows for fast and easy travel for panoramic views, hang gliding & paragliding. "The Passage" (the service road for power lines) is a challenging direct route to the top used by joggers and hikers.

MANAGEMENT OBJECTIVE
To provide opportunities for community residents and seasonal regional visitors to engage in a variety of recreational activities including sight seeing, road bike hill climb, hiking, jogging, paragliding & hang gliding.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Road bike riding, jogging, hiking & fitness activities 2) sight seeing 3) Geocach discovery 4) Paragliding & hang gliding 5) Telemark & back country skiing	Enjoyment derived from: 1) Close to home outdoor activities; 2) Challenging physical exercise 3) Easy access to natural landscapes 4) Escape from gravity 5) Carving perfect turns on the fall line	Personal: Physical fitness, well-being & sense of accomplishment Community/Social: Promotes appreciation for the community's place with respect to public lands Environmental: Promotes an appreciation for some of the natural phenomenon of the area (i.e. the Humboldt river & the vast stretch of sand dunes north of Winnemucca) Economic: Contributes to the local & regional tourist generated income by drawing travelers from I 80



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day		3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group		4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter		Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None		Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site		Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare		Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Winnemucca Special Recreation Management Area

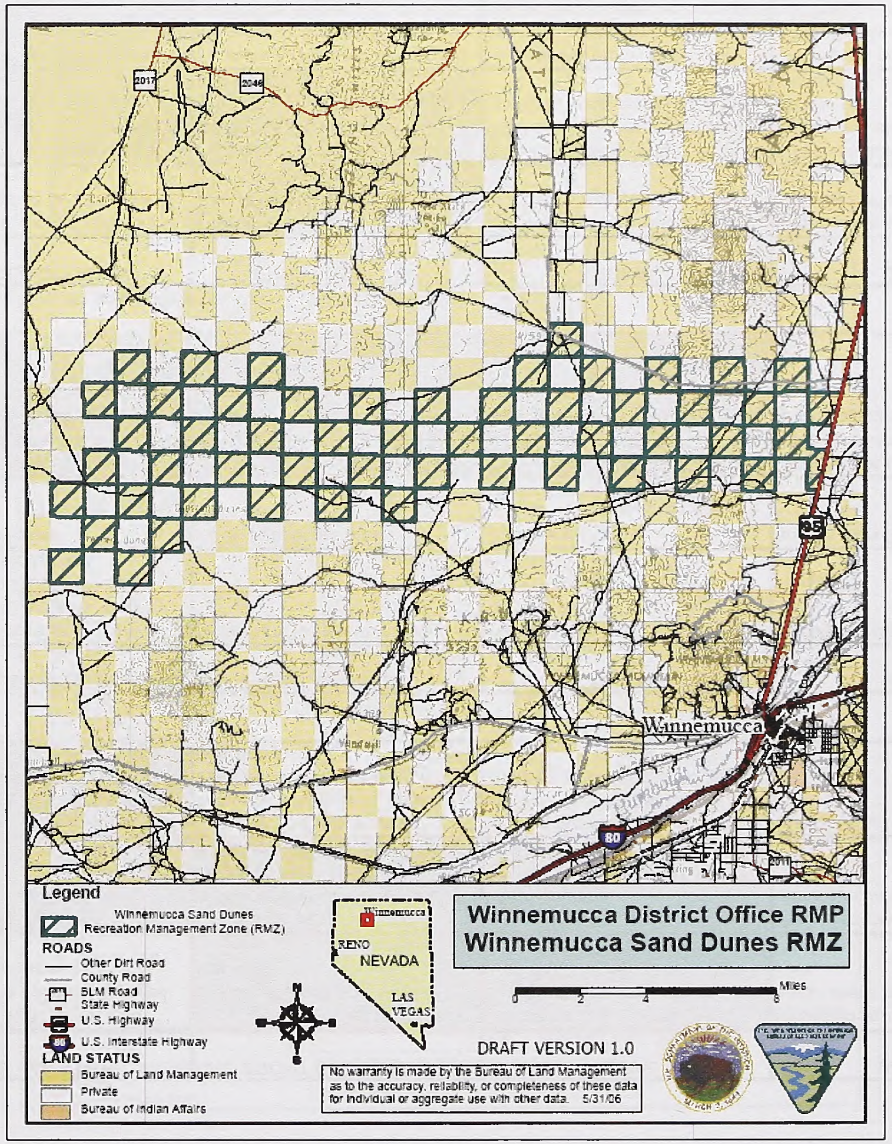
Primary Market Strategy	Market
Community Strategy - The community is dependent on public lands for recreation related tourism use, growth, & development	Local & visiting day & overnight ATV users

Winnemucca Sand Dunes RMZ

NICHE
Close to town OHV use on an expansive low lying sand dune complex

MANAGEMENT OBJECTIVE
To provide opportunities for community residents and seasonal regional visitors to engage in trail-less OHV activities on sand while promoting ATV ethics, protecting sensitive areas and respecting the rights of private property owners

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) OHV use 2) Camping	Enjoyment derived from: 1) Close to home outdoor activities 2) Developing OHV skills 3) Easy access to natural landscapes 4) Spending outdoor time with friends and family 5) Escape from social pressures 6) A greater sense of independence	Personal: Develop ATV riding skills Sense of accomplishment Community/Social: Promotes appreciation for the community's dependence on public lands. Informs the general public about the nature of "checker board" lands and the inherent difficulties imposed on the BLM to manage these lands Environmental: Promotion of stewardship, husbandry, conservation & protection of a sand dune environment Economic: ATV trails & areas are important components of the Winnemucca recreation & tourism economy



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day		3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group		4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter		Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None		Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site		Basic maps, area personal seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare		Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

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Pine Forest SRMA-Proposed Recreation Management Zones

Pine Forest Special Recreation Management Area

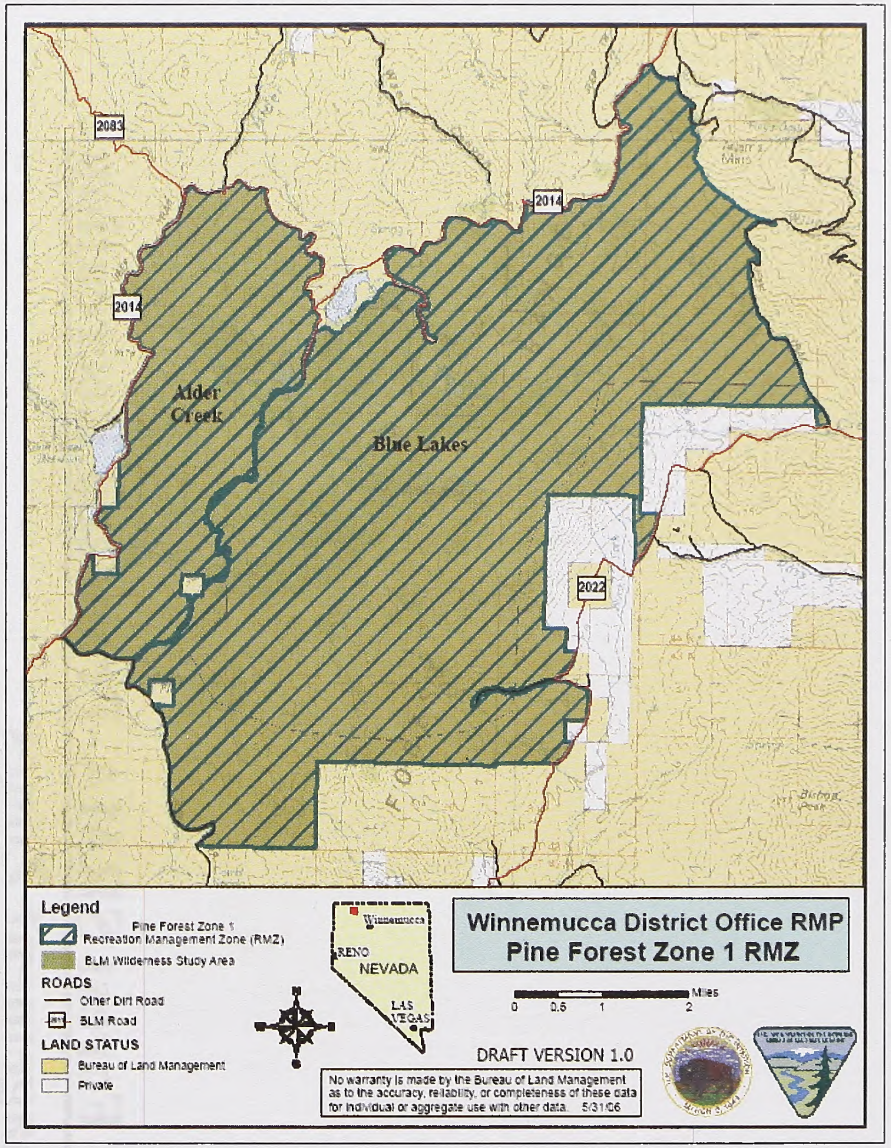
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire recreate in a alpine / high desert setting

Zone 1 RMZ: Blue Lakes WSA (20,508 acres) & Alder Creek WSA (5,142 acres)

NICHE
Self directed recreational adventure, challenge, & exploration in rugged, natural & high altitude terrain

MANAGEMENT OBJECTIVE
To provide opportunities for residents and seasonal regional visitors to engage in a variety of recreational activities in a manner that maintains the area's suitability for preservation as wilderness

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Hiking 2) Camping 3) Nature viewing 4) Horse back riding 5) Fishing & hunting 6) Back packing 7) Multi-day outdoor trips with family & friends	Enjoyment derived from: 1) Challenge & adventure 2) Developing outdoor skills & abilities 3) Remote access to natural landscapes 4) Spending outdoor time with friends and family 5) Escape from social pressures 6) A greater sense of independence	Personal: Physical fitness and well being. Personal growth & development Community/Social: Promotes appreciation for the area & an outdoor ethic of the western public lands Environmental: Promotion of stewardship, husbandry, and conservation & protection of Nevada's WSA's Economic: Contributes to the local, regional & national economic stability by encouraging business for out fitters, guides & equipment manufacturers



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION PRISTINE		BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day	3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group	4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter	Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE TRANSITION PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None	Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
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MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare	Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Pine Forest Special Recreation Management Area

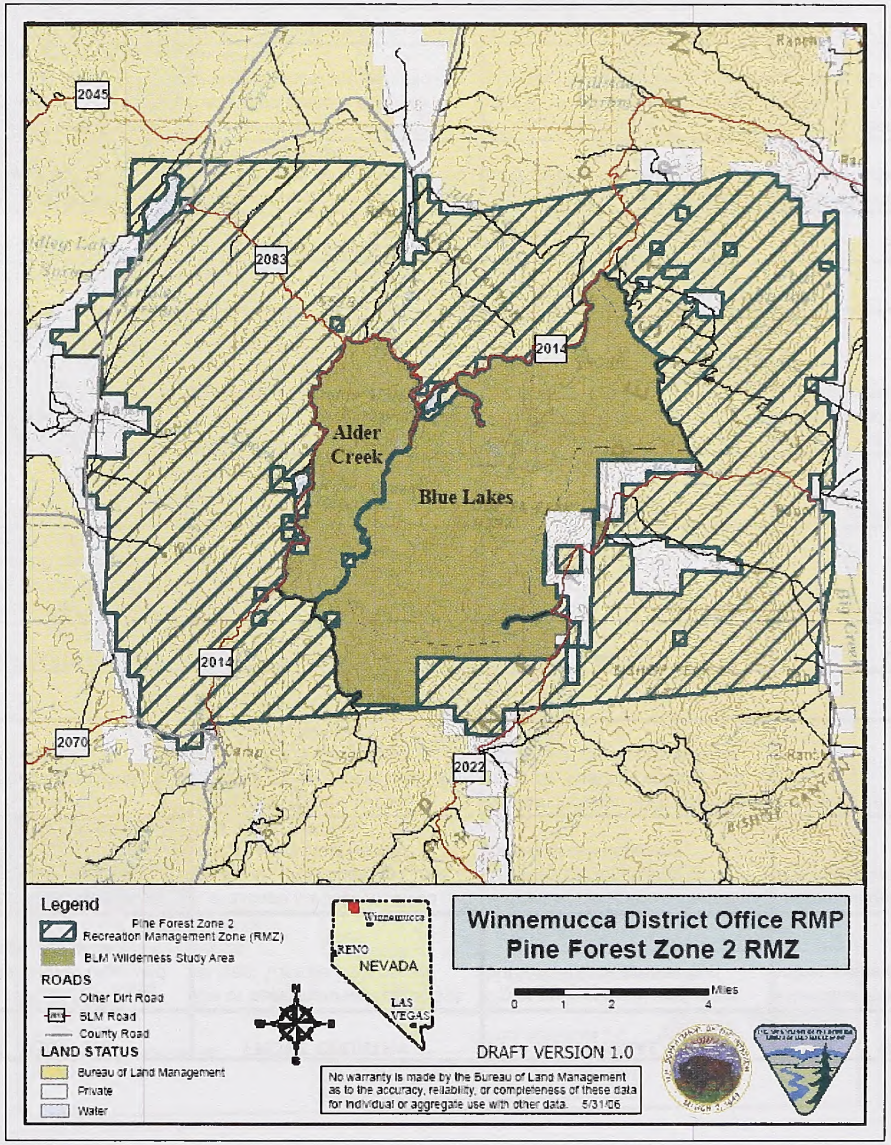
Primary Market Strategy	Market
Undeveloped Strategy -National, regional & local recreation visitors or communities value public lands for the distinctive kinds of of dispersed recreation produced by the vast size & largely open undeveloped character of the recreation settings.	Local, regional & national recreationist who desire recreation in a alpine / high desert setting

Zone 2 RMZ

NICHE
Self directed recreational adventure, challenge, & exploration in rugged, natural & high altitude terrain

MANAGEMENT OBJECTIVE
To provide opportunities for residents and seasonal regional visitors to engage in a variety of recreational activities in a manner that maintains the area's natural resources

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Hiking 2) Camping 3) Nature viewing 4) Horse back riding 5) Fishing & hunting 6) Back packing 7) Multi-day outdoor trips with family & friends 8) ATV use	Enjoyment derived from: 1) Challenge & adventure 2) Developing outdoor skills & abilities 3) Remote access to natural landscapes 4) Spending outdoor time with friends and family 5) Escape from social pressures 6) A greater sense of independence	Personal: Physical fitness and well being. Personal growth & development Community/Social: Promotes appreciation for the area & an outdoor ethic of the western public lands Environmental: Promotion of stewardship, husbandry, and conservation & protection of Nevada's public lands Economic: Contributes to the local, regional & national economic stability by encouraging business for out fitters, guides & equipment manufacturers



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
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FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day		3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group		4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter		Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE / PRISTINE	TRANSITION	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
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MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare		Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

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Granite Range SRMA-Proposed Recreation Management Zones

Granite Range Special Recreation Management Area

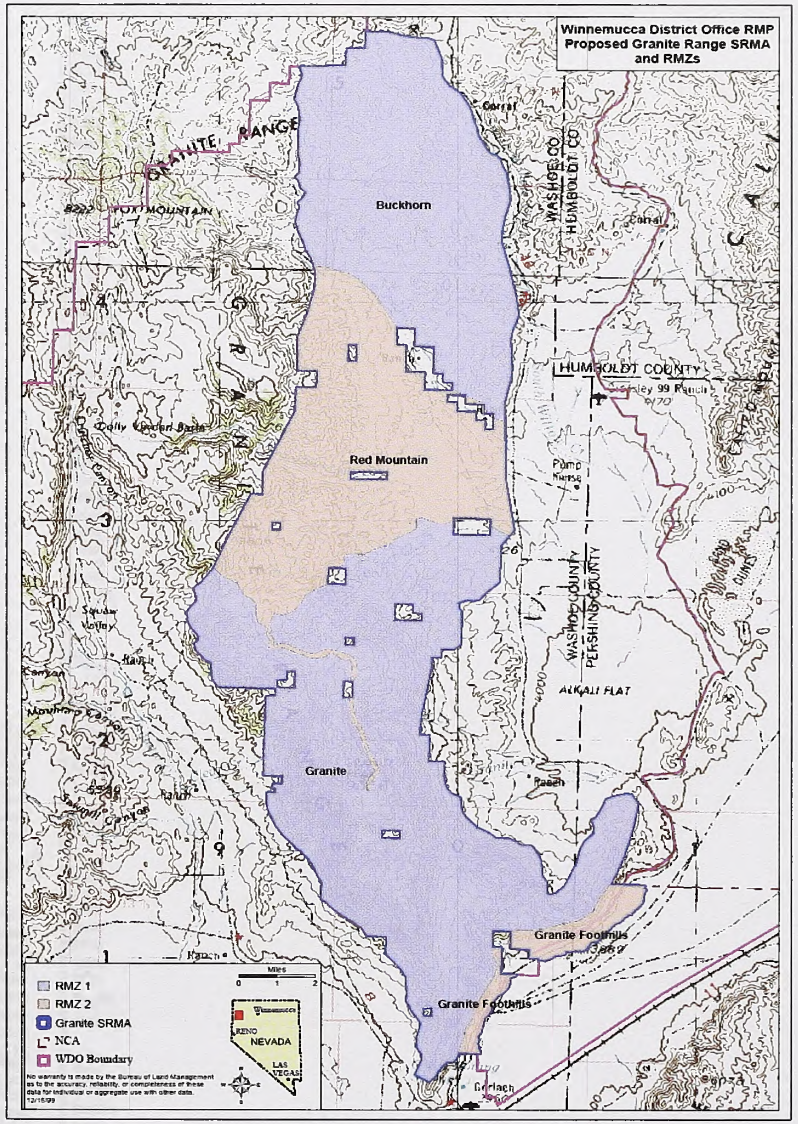
Primary Market Strategy	Market
Destination Strategy - National / regional visitors & constituents value the public lands for the distinctive kinds of dispersed recreation produced by the vast. size & open undeveloped character of the recreation settings	Local, regional & national recreationist who desire to choose where they want to travel & how they want to travel with the freedom to *"Build their own adventure"*

Zone 1 - Buckhorn / Granite RMZ

NICHE
Self directed recreational trekking, adventure, challenge & exploration in rugged & natural terrain that is remote & largely accesible by foot only.

MANAGEMENT OBJECTIVE
To provide opportunities for residents & seasonal regional and national visitors to engage in a variety of primative and dispersed activities in a manner that maintains the area's natural resources and contributes to meeting the projected recreational demand while maintaining a near wilderness setting without the complex restrictive philosophy of "Wilderness"

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Hiking 2) Camping 3) Nature Viewing 4) Hunting 5) Winter Mountaineering	Enjoyment derived from: 1) Challenge & adventure 2) Developing outdoor skills & abilities 3) Remote access to natural landscapes 4) Solitude, freedom & independence	Personal: Physical fitness & well being Personal growth & development Community/Social: Promote appreciation of an outdoor ethic for the western public lands Environmental: Promote stewardship, husbandry, conservation & protection of the surrounding public lands Economic: Contributes to the local, regional & national economic stability through recreation & tourist related income



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road		More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape			Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None			Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day			3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters/ day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
GROUP SIZE	Fewer than 3 people/group			4-6 people/group	7-12 people/group	13-25 people per group	26-50people/group	greater than 50/group
EVIDENCE OF USE	Only foot prints observed. No noise or litter			Foot prints & bicycle tracks observed. Noise & litter in-frequent. Slight vegetation trampling at campsites & popular areas. Fire rings seen	Vehicle tracks observed. Occasional noise & litter. Vegetation & soils becoming worn at campsites, along traveled routes, & at popular sites	Vehicle tracks common. Some noise & litter. Vegetation & soils commonly worn at campsites, along traveled routes, & at popular sites	Frequent noise & litter. Large, localized vegetation damage & soil compaction	Unavoidable noise & litter. Wide spread vegetation damage & soil compaction

ADMINISTRATIVE SETTING - Describes how public land managers, county commissioners/municipal governments & local businesses care for the area & serve local residents

ADMINISTRATION & SERVICES	PRIMITIVE	TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
MECHANIZED USE	None			Mountain bikes & perhaps other non mechanized use	4WD, ATV's, motorcycles, or snowmobiles, in addition to non motorized use	2WD vehicles predominate, but also 4WD's & other mechanized & non mechanized uses	Ordinary highway auto & truck traffic is characteristic	Wide variety of street vehicles & highway traffic is ever present
VISITOR SERVICES	None is available on site			Basic maps, area personnel seldom available to provide on site assistance	Area brochures & maps, area personnel occasionally present to provide on site assistance	Information materials describe recreation areas & activities. Area personnel are periodically available	All information already mentioned, plus area personnel available to do on site education	All information already mentioned, plus regularly scheduled on-site outdoor skills demonstrations and clinics
MANAGEMENT CONTROLS	No visitor controls apparent. No use limits. Enforcement presence very rare			Signs at key access points on basic user ethics. May have back country use restrictions	Occasional regulatory signing. Motorized & Mechanized use restrictions. Random enforcement presence	Rules clearly posted with some seasonal or day-of-week restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit or reservation. Routine enforcement presence	Continuous presence to re-distribute use & reduce user conflicts, hazards, & resource damage

Granite Range Special Recreation Management Area

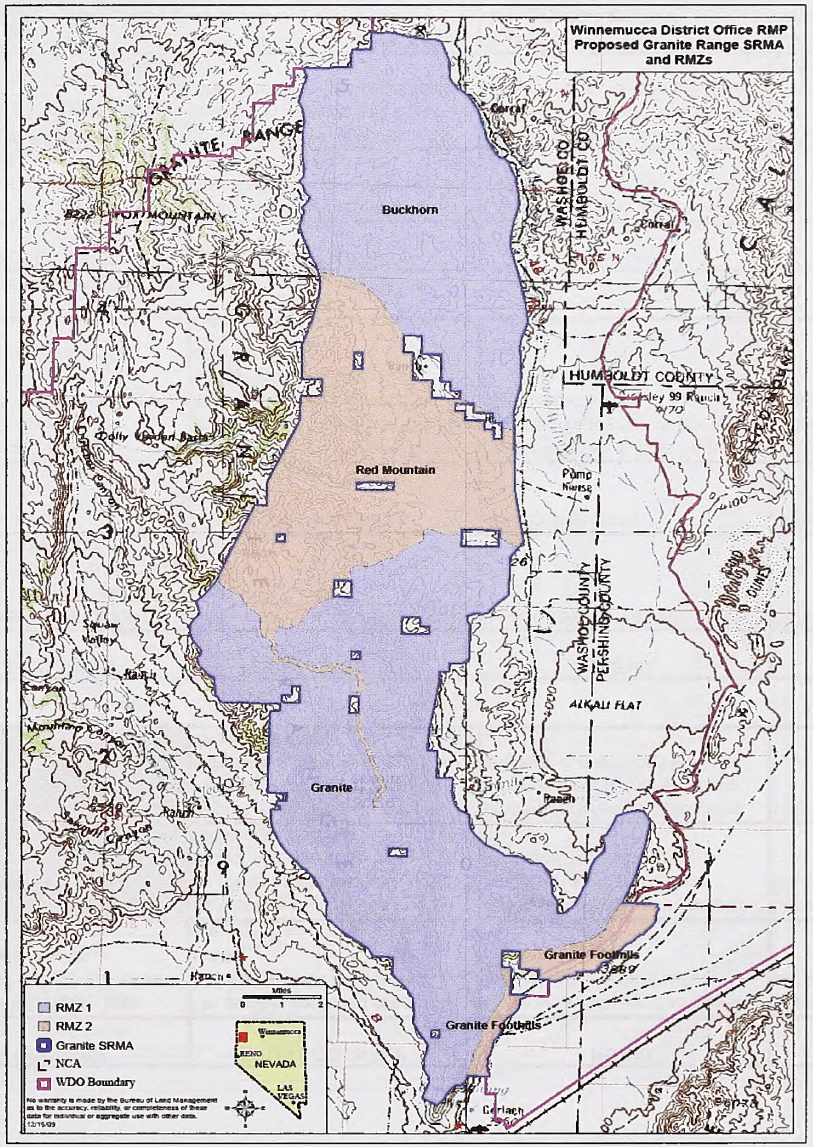
Primary Market Strategy	Market
Destination Strategy - National / regional visitors & constituents value the adjacent public lands as recreation and tourism destinations.	Local, regional & national recreationist who desire to participate in the varied & unique recreational activities available in the adjacent NCA

Zone 2 - Granite Foothills / Red Mountain RMZ

NICHE
Primitive visitor facilities and assistance in this RMZ would complement the "*Know before you go*" campaign of the adjacent NCA.

MANAGEMENT OBJECTIVE
To provide opportunities for residents & seasonal regional and national visitors to engage in a variety of developed and dispersed activities in a manner that maintains the area's natural resources and contributes to meeting the projected recreational demand through the development of primitive recreational facilities such as trail heads and directional and interpritive signs and kiosks.

TARGETED OUTCOMES		
Activities	Experiences	Benefits
1) Opportunity to gather information about the surrounding area and activities. 2) Participate in structured interpretive activities and programs	1) Fostering a personal appreciation and knowledge of the BLM's mission 2) Adding an interpretive / personal touch of quality and enhancing the individual's interaction with the BLM & the public lands it manages.	Personal: The convenience of on site BLM representation to assist and advise in matters of personal interest Community/Social: Promotes an appreciation for the community's dependence on public lands & fosters community pride. Environmental: Promote stewardship, husbandry, conservation & protection of the surrounding public lands Economic: Contributes to the local economic stability by performing public services such dispensing information on local conditions, opportunities & possible user conflicts



NATURAL RESOURCE RECREATION SETTINGS

Existing Setting: Prescribed/Desired Setting:

Physical Setting - Describes the character of the natural landscape

LAND & FACILITIES	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
REMOTENESS	More than 10 miles from any road	More than 3 miles from any road	More than 1/2 mile but less than 3 miles from any road. No road in sight	On or near 4WD roads, less than 1/2 mile from all improved roads. Roads may be in sight	On or near improved roads, but at least 1/2 mile from paved roads	On or near primary road ways, but still within a rural setting	Municipal streets and roads within towns or cities
NATURALNESS	Undisturbed natural landscape		Naturally appearing landscape having modifications not readily noticeable	Naturally appearing landscape except for obvious primitive roads	Landscape partially modified by roads, utility lines, etc., but do not overpower natural landscape features	Natural landscape substantially modified by agricultural or industrial development	Urbanized development dominates landscape
FACILITIES	None		Some primitive trails made of native materials	Maintained & marked trails, simple trailhead developments, signs & basic toilets	Improved facilities such as campsites, restrooms, trails & interpretive, informational, & directional signs	Modern facilities such as camp grounds, boat launches, group shelters, & developed exhibits	Elaborate full service facilities

Social Setting - Describes the character of recreation and tourism use

VISITOR USE & VISITORS	PRIMITIVE TRANSITION	PRISTINE	BACK COUNTRY	MIDDLE COUNTRY	FRONT COUNTRY	RURAL	URBAN
CONTACTS	Fewer than 3 encounters/day		3-6 encounters/day	7-14 encounters/day off travel routes (camp grounds, staging areas) & up to 30 encounters/ day on traveled routes	More than 30 encounters/day	People seem to be everywhere	People constantly in view
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APPENDIX D

BLM SENSITIVE AND STATE PROTECTED PLANT SPECIES POTENTIALLY OCCURRING IN THE WDO PLANNING AREA

Table D-1
BLM Sensitive and State Protected Plant and Wildlife Species Potentially Occurring in the WDO Planning Area

Common Name	Scientific Name	State of Nevada	Preferred Habitat
Plants			
Tiehm milkvetch	*Astragalus tiehmii*	S	White ash deposits in basalt mesa country between 1600-1700 m elevation.
Schoolcraft catseye	*Cryptantha schoolcraftii*	S	White ash deposits in sagebrush steppe between 1500-1700 m elevation.
Windloving buckwheat	*Eriogonum anemophilum*	S	Windswept summits, ridges, and exposed slopes on loose limestone gravels & volcanic outcrops between 2130-2750 m elevation.
Crosby buckwheat	*Eriogonum crosbyae*	S	Typically on rolling hills dominated by big sagebrush between 1650-1700 m elevation.
Grimy ivesia	*Ivesia rhypara* var. *rhypara*	S	Deposits of light-colored ash-tuff with few and sparse associated species between 1600-1900 m elevation.
Smooth stickleaf	*Mentzelia mollis*	S	Sparsely vegetated volcanic ash/claybed outcrops between 1160 to 1525 m elevation. Adjacent areas support sagebrush-shadscale plant communities.
Cordelia beartongue	*Penstemon floribundus*	S	Steep mountain slopes and associated alluvial fans in limestone rock desert between 1300-2200 m elevation.
Pueblo Valley peppergrass	*Lepidium montanum* var. *nevadense*	S	Dependent on sand dunes or deep sand, between 1275-1330 m elevation.
Lonesome milkvetch	*Astragalus solitarius*	S	Stiff clays of valley floors and mesas, usually in close association with little sagebrush between 1400-1600 m elevation.
Owyhee prickly phlox	*Leptodactylon glabrum*	S	Crevices in steep to vertical, coarse-crumbling volcanic canyon walls. Intolerant of water paths or seeps that may form in the rock crevices. Found between 2800-4000 m elevation.
Sand cholla	*Opuntia pulchella*	--/CY	Sand of dunes, dry-lake borders, river bottoms, washes, valleys, and plains in the desert between 1200-1900 m elevation.
Oryctes	*Oryctes nevadensis*	S/--	Sandy substrates (often deep, loose sand), on washes, stabilized dunes, flats, slopes, and low desert foothills between 1100 - 2535 m elevation.
Lahontan beardtongue	*Penstemon palmeri* var. *marcranthus*	S	Along washes, roadsides and canyon floors, particularly on carbonate-containing substrates, usually where subsurface moisture is available throughout most of the summer between 1000-1400 m elevation.

Table D-1
BLM Sensitive and State Protected Plant and Wildlife Species Potentially Occurring in the WDO Planning Area

Common Name	Scientific Name	State of Nevada	Preferred Habitat
Nevada dune beardtongue	*Penstemon arenarius*	S	Deep, volcanic, sandy soils at 1200-1350 m elevation in saltbush scrub.
Obscure scorpionflower	*Phacelia inconspicua*	--/CE	Open sandy spots in sagebrush/grass zone, near junipers. Rocky north or west facing slopes on loose rich soil between 1525-2440 m elevation.
Osgood Mountain milkvetch	*Astragalus yoder-williamsii*	--/CE	Dry, cold ridge crests, stony flats, and disturbed roadbeds between 1575-2170 m elevation. Associated with low sagebrush.
Insects			
Denio sandhill skipper	*Polites sabuleti sinemaculata*	S	Unknown.
Humboldt sericum scarab	*Serica humboldti*	S	Sand dunes that provide an easily penetrable substrate with ready access to higher levels of moisture, as well as protection from temperature extremes.
Mollusks			
Dixie Valley springsnail	*Pyrgulopsis dixensis*	S	Freshwater.
Fly Ranch pyrg	*P. bruesi*	S	Habitat is a thermal spring with water temperature 27C, found on submerged aquatic vegetation.
Fishes			
No known species listed.			
Amphibians			
No known species listed.			
Reptiles			
Short-horned lizard	*Phrynosoma douglasii*	S	Occurs in open, shrubby, or openly wooded areas with sparse vegetation at ground level. Burrows into the soil or occupies rodent burrows.
Birds			
Western snowy plover	*Charadrius alexandrinus nivosus*	S	Desert playas, ephemeral pools, lakes, reservoirs, and marshes.
Western burrowing owl	*Athene cunicularia hypugaea*	S	Desert scrub, sagebrush, grasslands, meadows, and developed landscapes.
Greater sage-grouse	*Centrocercus urophasianus*	S	Sagebrush, grasslands, and meadows.
Black tern	*Chlidonias niger*	S	Marshes, desert playas, ephemeral pools, lakes and reservoirs.
Least bittern	*Ixobrychus exilis hesperis*	S	Marshes.
Northern goshawk	*Accipiter gentilis*	S	Conifer forests, lower montane woodland, rivers, and streams.
White-faced ibis	*Plegadis chihi*	S	Marshes, wet meadows, agricultural lands, lakes, and reservoirs.
Golden eagle	*Aquila chrysaetos*	S	Open country, open wooded country, and barren areas, especially

Table D-1
BLM Sensitive and State Protected Plant and Wildlife Species Potentially Occurring in the WDO Planning Area

Common Name	Scientific Name	State of Nevada	Preferred Habitat
			in hilly or mountainous regions. Nests on rock ledges of cliffs or in large trees.
Long-billed curlew	*Numenius americanus*	S	Wet meadows, agricultural lands, grasslands, and meadows.
Short-eared owl	*Asio flammeus*	S	Desert scrub, sagebrush, marshes, grasslands, meadows, and agricultural lands.
Long-eared owl	*A. otus*	S	Wooded areas with dense vegetation needed for roosting and nesting, open areas for hunting. Often associated with deciduous woods near water.
Juniper titmouse	*Baeolophus ridgwayi*	S	Pinyon-juniper woodlands.
Ferruginous hawk	*Buteo regalis*	S	Uses native and tame grasslands, pastures, hayland, cropland, and shrubsteppe.
Swainson's hawk	*B. swainsoni*	S	Grasslands, meadows, rivers, streams, agricultural lands, and lower montane woodlands.
Bobolink	*Dolichonyx oryzivorus*	S	Agricultural lands, grasslands, meadows, wet meadows, marshes, rivers, and streams.
Prairie falcon	*Falco mexicanus*	S	Primarily large patches of open land with low vegetation stature characterize the habitats used, especially in mountainous areas, steppe, plains, prairies, or croplands.
Sandhill crane	*Grus Canadensis tabida*	S	Grasslands, meadows, marshes, rivers, streams, and agricultural lands.
Pinyon jay	*Gymnorhinus cyanocephalus*	S	Lower montane woodlands.
Yellow-breasted chat	*Icteria virens*	S	Nests in bushes, brier tangles, vines, and low trees, generally in dense vegetation less than 2 m above ground.
Loggerhead shrike	*Lanius ludovicianus*	S	Desert scrub, sagebrush, grasslands, and meadows.
Lewis's woodpecker	*Melanerpes lewis*	S	Rivers, streams, coniferous forest, lower montane woodlands.
Mountain quail	*Oreotyx pictus*	S	Chaparral, conifer forests, lower montane woodlands, and sagebrush.
Flammulated owl	*Otus flammeolus*	S	Montane forest, usually open conifer forests containing pine, with some brush or saplings.
Vesper sparrow	*Pooecetes gramineus*	S	Plains, prairie, dry shrublands, savanna, weedy pastures, fields, sagebrush, arid scrub and woodland clearings.
Red-naped sapsucker	*Sphyrapicus nuchalis*	S	Primarily coniferous forest that includes aspen and other hardwoods.
Mammals			
Pygmy rabbit	*Brachylagus idahoensis*	S	Sagebrush.

Table D-1
BLM Sensitive and State Protected Plant and Wildlife Species Potentially Occurring in the WDO Planning Area

Common Name	Scientific Name	State of Nevada	Preferred Habitat
Townsend's big-eared bat	*Corynorhinus townsendii*	S	Mines and caves in lower montane woodland.
Spotted bat	*Euderma maculatum*	S	Cliffs, canyons, mines, caves, and developed landscapes.
Small-footed myotis	*Myotis ciliolabrum*	S	Developed landscapes, cliffs, canyons, caves, mines, agricultural lands, lower montane woodlands, sagebrush, desert scrub, and coniferous forest.
Long-eared myotis	*M. evotis*	S	Mostly forested areas, especially those with broken rock outcrops; also shrubland, over meadows near tall timber, along wooded streams, over reservoirs. Often roosts in buildings, also in hollow trees, mines, caves, and fissures.
Fringed myotis	*M. thysanodes*	S	Caves, mines, developed landscapes, desert scrub, and lower montane woodland.
Long-legged myotis	*M. volans*	S	Primarily in montane coniferous forests; also riparian and desert habitats. Uses caves and mines as hibernacula.
Pallid bat	*Antrozous pallidus*	S	Arid deserts and grasslands, often near rocky outcrops and water.
Silver-haired bat	*Lasionycteris noctivagans*	S	Prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. During migration, sometimes occurs in xeric areas.
Desert bighorn sheep	*Ovis Canadensis nelsoni*	S	Desert scrub, cliffs, canyons, and barren landscapes.
Big brown bat	*Eptesicus fuscus*	S	Various wooded and semi-open habitats, including cities. Much more abundant in regions dominated by deciduous forest than in coniferous forest areas.
Greater western mastiff bat	*Eumops perotis californicus*	S	Arid and semiarid areas; roosts in crevices and shallow caves on the sides of cliffs and rock walls, and occasionally buildings.
Allen's lappet-browed (big-eared) bat	*Idionycteris phyllotis*	S	Primarily mountainous wooded areas but also riparian woodland. Typically found near cliffs, boulders, and lava flows.
Hoary bat	*Lasiurus cinereus*	S	Rivers, streams, agricultural lands, and lower montane woodlands.
California leaf nosed bat	*Macrotus californicus*	S	Desert scrub, cliffs, canyons, caves, mines, and developed landscapes.
California myotis	*Myotis californicus*	S	Cliffs, conifer and hardwood forest, grasslands shrubland. Hibernates in caves, mines, tunnels, or buildings.
Little brown myotis	*M. lucifugus*	S	Developed landscapes, caves, mines, lakes, and reservoirs.

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BLM Sensitive and State Protected Plant and Wildlife Species Potentially Occurring in the WDO Planning Area

Common Name	Scientific Name	State of Nevada	Preferred Habitat
Fringed myotis	*M. thysanodes*	S	Primarily in desert, grassland, and woodland habitats. Roosts in caves, mines, rock crevices, buildings, and other protected sites.
Cave myotis	*M. velifer*	S	Cliffs, canyons, caves, and mines.
Big free-tailed bat	*Nyctinomops macrotis*	S	Rocky areas in rugged country. Roosts in rock crevices (vertical or horizontal) in cliffs; also in buildings caves, and occasionally tree holes.
Brazilian free-tailed bat	*Tadarida brasiliensis*	S	Cliffs, caves, grasslands, shrubland, developed landscapes, and conifer woodlands.

Source: NatureServe 2007; Wildlife Action Plan Team 2006

Status:
BLM
S = Sensitive

Plants
CE = Critically endangered
CY = Protected as a Cactus, Yucca, or Christmas tree

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APPENDIX E

SIERRA FRONT-NORTHWESTERN GREAT BASIN RAC STANDARDS AND GUIDELINES FOR RANGELAND HEALTH

APPENDIX E

Sierra Front-Northwestern Great Basin Standards and Guidelines for Rangeland Health

Source: RAC Standard and Guidelines for Rangeland Health. http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html

PREAMBLE STANDARDS FOR RANGELAND HEALTH
The Standards and Guidelines for livestock grazing on Bureau of Land Management lands are written to accomplish the four fundamentals of rangeland health, insofar as they are affected by livestock grazing practices. Those fundamentals are:

- Watersheds are properly functioning;
- Ecological processes are in order;
- Water quality complies with State Standards; and
- Habitats of protected species are in order.

Other uses can affect the health of the land, and Guidelines for these currently exist or will be developed as needed. In addition, implementation of livestock grazing guidelines must be coordinated with other uses of the land, and collectively these uses should not detract from the goal of achieving public land health.

Standards, Indicators and Guidelines will be implemented through Standard public land management practices as defined in the Nevada Rangeland Monitoring Handbook and the other documents listed in Appendix A [of this appendix].

Standards: The goal to be achieved.

Indicators: Indicators are observations or measurements of physical, chemical or biological factors that should be used to evaluate site conditions or trends, appropriate to the potential of the site. Indicators assist in determining whether Standards are met or Guidelines followed.

Guidelines: Guidelines are livestock management practices (e.g., tools, methods, strategies and techniques) designed to achieve healthy public lands as defined by Standards and portrayed by Indicators. Guidelines are designed to provide direction, yet offer flexibility for local implementation through activity plans and grazing permits. Activity plans may add specificity to the Guidelines based on local goals and objectives as provided for in adopted manuals, handbooks and policy. Not all Guidelines fit all circumstances. Monitoring and site specific evaluation will determine if the Standards are being met or the trend on a particular site is toward desired objectives, and if the correct Guidelines are being applied. The BLM Authorized Officer, in consultation with public land users, will identify and document acceptable or unavoidable exceptions on a case-by-case basis.

STANDARD 1. SOILS: Soil processes will be appropriate to soil types, climate and land form.

As indicated by:
- Surface litter is appropriate to the potential of the site;

- Soil crusting formations in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water;
- Hydrologic cycle, nutrient cycle and energy flow are adequate for the vegetative communities;
- Plant communities are diverse and vigorous, and there is evidence of recruitment; and
- Basal and canopy cover (vegetative) is appropriate for site potential.

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STANDARD 2. RIPARIAN/WETLANDS: Riparian/Wetland systems are in properly functioning condition.

As indicated by:
- Sinuosity, width/depth ratio and gradient are adequate to dissipate streamflow without excessive erosion or deposition;
- Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion; and
- Plant species diversity is appropriate to riparian-wetland systems.

STANDARD 3. WATER QUALITY: Water quality criteria in Nevada or California State Law shall be achieved or maintained.

As indicated by:
- Chemical constituents do not exceed the water quality Standards;
- Physical constituents do not exceed the water quality Standards;
- Biological constituents do not exceed the water quality Standards; and
- The water quality of all water bodies, including ground water located on or influenced by BLM lands will meet or exceed the applicable Nevada or California water quality Standards. Water quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and antidegradation requirements set forth under State law, and as found in Section 303(c) of the Clean Water Act.

STANDARD 4. PLANT AND ANIMAL HABITAT: Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse.

As indicated by:
- Good representation of life forms and numbers of species;
- Good diversity of height, size, and distribution of plants;
- Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and
- Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

STANDARD 5. SPECIAL STATUS SPECIES HABITAT: Habitat conditions meet the life cycle requirements of special status species.

As indicated by:
- Habitat areas are large enough to support viable populations of special status species;
- Special status plant and animal numbers and ages appear to ensure stable populations;
- Good diversity of height, size, and distribution of plants;
- Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and
- Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

GUIDELINES FOR GRAZING MANAGEMENT:

1. Waters must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations to interfere with any beneficial use of the water. Compliance with the provisions of this subsection may be determined in accordance with methods of testing prescribed by the State. If used as an Indicator, survival of test organisms must not be significantly less in test water than in control water.
2. Grazing management practices should be planned and implemented to meet water quality provisions in either California State water law or Nevada Administrative Code Section 445A.120-121 as applicable.
3. Management practices within allotments will maintain or promote stream channel morphology, appropriate soil organisms; adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils; and the hydrologic cycle, nutrient cycle and energy flow.
4. After a range fire or other natural catastrophic event, vegetation should be returned to the native species as rapidly as possible, to afford forage and habitat for native animals. If a nurse crop is needed to protect the land from erosion, all native nurse crops should be used first.
5. Treated areas will be rested from livestock grazing for two growing seasons or until seedlings are established or the vegetative response has achieved objective levels. Wild horse and burros removed from Herd Management Areas will be restored after rehabilitation objectives have been met.
6. Alternative solutions (e.g., reseeding, funding, labor, equipment use or rental) to facilitate fire rehabilitation may be included in cooperative agreements involving qualified groups and individuals who want to participate.
7. Appropriate livestock grazing treatments will be implemented to control the frequency, duration, and level of grazing use. Where livestock grazing is authorized, grazing systems will provide within any one grazing year one or more of the following treatments:

a. Rest or deferment from livestock grazing on a specified area as appropriate to meet Standards.
b. Systematic rotation of deferred use and/or rest from livestock grazing among two or more units.
c. Continuous, season-long use where it has been demonstrated to be consistent with achieving identified Standards. Once season long use is determined to be unacceptable, an alternative system will be developed and implemented before termination of season long use, prior to the next grazing season.
d. Excluding further livestock grazing within the affected use area through appropriate techniques when utilization objectives are reached.

8. Conservation of Federal threatened or endangered, proposed, species of concern (formally Category One and Two) and other special status species is promoted by the restoration and maintenance of their habitats.
9. Salt and/or supplements will be placed at least ¼ mile from live waters (springs/streams) and outside of associated riparian areas, permanent livestock watering facilities, wet or dry meadows, and aspen stands. Also salt should not be placed in known historic properties.
10. Night bedding of sheep will be located at least ¼ mile from live waters, streams, springs, seeps, associated riparian areas, wet or dry meadows, and aspen stands.
11. Encourage the use of prescribed and natural fires, meeting prescription objectives, for the restoration and maintenance of healthy rangelands.
12. Departure from traditional grazing management practices may be authorized by BLM to achieve Standards on a case by case experimental basis for rangeland restoration and rehabilitation.
13. The best available science and technology will be utilized in monitoring and assessing the condition of rangelands from the pasture to the BLM District level.
14. Recognizing State Water Law requirements, wildlife and wild horses/burros within their Herd Management Areas will have access to surface water they customarily use.
15. Design of water facilities will incorporate features to ensure safe access and escape for small animals and birds.
16. The development of springs and seeps or other projects affecting water and associated resources shall be designed to maintain the associated riparian area and assure the attainment of Standards.
17. Grazing management practices shall be planned and implemented to allow for habitat requirements of wildlife and wild horses and burros within Herd Management Areas.
18. Implement aggressive action to reduce the invasion of exotic plant species into native plant communities. Control the spread of noxious weeds through various methods such as, grazing management, fire management and other vegetative management practices.
19. Riparian structural developments (i.e., gabions, dams, etc.) designed to achieve improvement in riparian and wetland conditions shall only be implemented in conjunction with changes in existing grazing management practices, where grazing is a significant factor contributing to a riparian condition needing such attention. Where grazing is not a significant factor causing a riparian condition needing attention, structural developments designed to achieve improvement in riparian and wetland conditions may be implemented independent of changes in existing grazing management practices.
20. The utilization, monitoring and evaluation process will be used as a tool to promote healthy rangelands and achieve Standards.

21. Implement grazing management practices that sustain biological diversity across the landscape.
22. To prevent transmission of disease between domestic and bighorn sheep, adopt and implement the "Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats" contained in Mountain Sheep Ecosystem Management Strategy in the 11 Western States and Alaska.
23. Rangeland management plans will consider listings of known historic properties and new eligible properties as they become known.

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APPENDIX F

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) NOMINATION REPORT

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca Field Office
5100 East Winnemucca Boulevard
Winnemucca, Nevada 89445-2921
http://www.nv.blm.gov/winnemucca
(775) 623-1500 or wfoweb@nv.blm.gov

TAKE PRIDE IN AMERICA

In Reply Refer To:

NV-20.06
1610.RMP

Dear Reader/Interested Party:

Attached is the Relevance and Importance evaluation analysis report of 29 areas nominated as Areas of Critical Environmental Concern (ACECs) for the Bureau of Land Management (BLM), Winnemucca Field Office, Resource Management Plan (RMP)/Environmental Impact Statement (EIS). The evaluations document whether nominations meet the relevance and importance criteria as provided in *BLM Manual 1613 "Areas of Critical Environmental Concern."* Three (3) of the 29 nominations meet the criteria and will move forward for further consideration. One existing ACEC will also be brought forward. The remaining 25 nominations have been dropped from further analysis as potential ACECs.

If you submitted a nomination for an ACEC, this letter and report provides notice as required in *BLM Manual 1613* whether your nomination met the relevance and importance criteria to move forward as a potential ACEC. During the 90-day public comment period for the Draft RMP/EIS, the public may comment on the ACEC relevance and importance analysis.

The BLM is currently in the process of defining management alternatives for the RMP. Management goals, objectives, actions and allowable uses will be defined for each of the 3 proposed ACEC nominations and 1 existing ACEC to protect relevant and importance values identified in the nominations.

Thank you for your continued interest in the planning process.

Sincerely,

Gail G. Givens
Field Manager

Enclosure:
ACEC Analysis Report

United States Department of the Interior
Bureau of Land Management

Winnemucca Field Office
5100 East Winnemucca Blvd.
Winnemucca, NV 89445

September 2006

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Relevance and Importance Evaluations

For 29 Areas Nominated as Areas of Critical Environmental Concern

Prepared by the Winnemucca Field Office for the Winnemucca Resource Management Plan

EXECUTIVE SUMMARY

This report documents the evaluation of 29 Areas of Critical Environmental Concern (ACEC) nominations reviewed as part of the Winnemucca Resource Management Plan (RMP). Four (4) of the 29 nomination areas will be considered further in alternatives developed for the plan and the associated environmental analysis. The 3 areas are referred to as Potential ACECs with 1 area being an existing ACEC.

This evaluation does not designate any of the areas as ACECs. Designation of potential ACEC areas will be determined after public input and analysis of the RMP/EIS is completed. Final designation will be reflected in the signed Record of Decision (ROD) for the RMP.

ABBREVIATIONS AND ACRONYMS

ACEC	Area of Critical Environmental Concern
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
EIS	Environmental Impact Statement
ESI	Ecological Site Inventory
FLPMA	Federal Land Policy and Management Act
GIS	Geographic Information System
MFP	Management Framework Plan
NCA	National Conservation Area
NDOW	Nevada Department of Wildlife
MLRA	Major Land Resource Area
OHV	Off Highway Vehicle
RMP	Resource Management Plan
ROD	Record of Decision
TCP	Traditional Cultural Property
VRM	Visual Resource Management
WA	Wilderness Area
WFO	Winnemucca Field Office

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INTRODUCTION

In March 2005 the Bureau of Land Management (BLM), Winnemucca Field Office (WFO) initiated the official public scoping period to prepare a Resource Management Plan (RMP) via publication of the Notice of Intent in the *Federal Register*. The RMP will incorporate appropriate management decisions from the existing Paradise-Denio and Sonoma-Gerlach Management Framework Plans (1982) along with updated evaluations and decisions into one RMP. The WFO planning area boundary encompasses about 10,060,000 acres consisting of public lands, private lands, state lands, Indian reservations and the federal lands not administered by the BLM. The RMP will address the public lands administered by the WFO. Approximately 1.2 million acres within the planning area was included in the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area, associated wilderness areas and other contiguous lands. A separate land use plan for this area was developed and approved in July 2004. The WFO RMP will cover about 7.2 million acres of public land within the WFO administrative boundary and certain grazing allotments outside of the boundary administered by WFO via Memorandums of Understanding with other BLM Field Offices.

The BLM is required under the Federal Land Policy and Management Act of 1976 As Amended (FLPMA) to do land use planning under Title II. Sec. 202 (c)(3) requires BLM to give priority to the designation and protection of areas of critical environmental concern (ACEC) as part of the land use planning process. Among various land use plan decisions, the WFO RMP will address administrative designations such as ACECs. To be designated as an ACEC, an area must meet both the relevance and importance criteria listed in the ACEC BLM manual #1613, (9/88) and require special management. Requests for ACEC nominations for the RMP were initiated in May 2005. Nominations may come from BLM staff, other agencies, or members of the public. In addition to new nominations, the BLM WFO will be evaluating past nominations received. To date, the WFO has received 29 nominations.

DEFINITION OF AN AREA OF CRITICAL ENVIRONMENTAL CONCERN

BLM regulations (43 CFR part 1610) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards."

ACECs differ from other special management designations such as Wilderness Study Areas (WSAs) in that the designation, by itself, does not automatically prohibit or restrict other uses in the area. A Plan of Operation is required for any proposed mining activity within an ACEC.

CRITERIA REQUIREMENTS FOR ACEC DESIGNATION

To be designated as an ACEC, an area must meet the relevance and importance criteria listed in BLM 1613 Manual (BLM 1988) **and** require special management. As part of the WFO RMP, BLM planning team members will review all ACEC nominations to see if they meet ACEC criteria. The three elements of ACEC criteria are listed below.

Relevance Criteria:

Does the area contain one or more of the following:

1. A significant historic, cultural, or scenic value?
2. A fish and wildlife resource?
3. A Natural process or system?
4. A natural hazard?

Importance Criteria:

Does the value, resource, system, process, or hazard described above have substantial significance or value? Does it meet one or more of the following:

1. Is it more than locally significant, especially compared to similar resources, systems, processes, or hazards within the region or nation?
2. Does it have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?
3. Has it been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?
4. Does it have qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare?
5. Does it pose a significant threat to human life and safety or property?

Need for Special Management:

Does the value, resource, system, process, or hazard require special management to protect (or appropriately manage) the importance/relevant values(s)? Special management is defined as or is needed when:

1. Current management activities are not sufficient to protect a given relevant/important resource value and a change in management is needed that is not consistent with the existing land use plan(s).
2. The needed management action is considered unusual or outside of the normal range of management practices typically used.
3. The change in management is difficult to implement without ACEC designation.

ADDITIONAL RELEVANCE AND IMPORTANCE CRITERIA APPLIED

CULTURAL RESOURCES AND VALUES

Relevance - For the purpose of this evaluation, an area would meet the relevance criteria for cultural values if it is more than locally significant. This is defined as: a site or group of sites which are unique within the region, state, or nation. Sites which are considered to be representative of many known sites (relatively common) within the local area are not considered to be unique.

Importance – A site/area would meet the importance criteria if:

a. The site or group of sites are so fragile, sensitive, or rare, that, if lost would be irreplaceable or the site(s) have no other comparable site(s) from which data can be extrapolated.
b. The site(s) meet priority concerns via an existing National special designation such as, National Historic Trail, national Landmark, National Register site or District, or Traditional Cultural Property (TCP). Sites can meet these criteria by being nominated as a TCP or by being eligible for listing on the National Register for more than local significance.
c. An historic structure or cultural feature that is in such a state of disrepair or in an unstable condition as to pose a significant human health or safety hazard.
d. The area contains significant and unique rock art locations.

Special Management Requirements - Evaluation would be determined based on need for management change after reviewing existing management plans, Federal Laws, Regulations, BLM policy and guidance.

SCENIC VALUES – For the purpose of this evaluation, only areas containing all or portions of Visual Resource Management Class I or II are deemed to meet relevance and importance criteria.

FISH AND WILDLIFE RESOURCES – For the purpose of this evaluation, the following criteria will be used to evaluate relevance and importance.

e. Bureau listed, sensitive, species of concern, or state listed special status species that are considered to be more than locally significant and have regional importance.
f. Federally listed threatened or endangered species have regional and national importance.
g. Species or habitat where there is a real immediate threat.

NATURAL PROCESSES OR SYSTEMS

This system addresses the relevance and importance criteria as they relate to in a broader context, rare, unique, or unusual plant communities. For the purposes of this evaluation,

a sensitive plant species or unusual plant community is considered to meet the relevance criteria wherever it is found and is considered to be more than locally significant if the plant or community is rare within the Northern Great Basin or Western United States.

A plant species or community also meets the importance criteria if:

h. The plant community rates high when compared to other similar plant communities with the Major Land Resource Area (MLRA). This rating is based on comparing survey data collected by the Ecological Site Inventory (ESI) method.
i. The site/plant community has been recognized to be of national importance via National level special designations, such as a National Conservation Area or Traditional Cultural Property based at least in part, on the presence of plant/community values.

NATURAL HAZARDS

The following relevance and importance criteria will be applied to natural hazards.

j. Is a natural hazard present?
k. Does the area have qualities that warrant highlighting public notification to satisfy public management concerns about safety and public welfare?
l. Does the area pose a significant threat to human life and safety?

THE ACEC EVALUATION PROCESS

There are several steps in the identification and evaluation of ACECs (See figure 1 – page 8). These steps include nomination of areas that may meet the relevance and importance criteria, evaluation of the nominated areas, and consideration of proposed ACECs in various alternative scenarios. The effects of proposed alternatives including proposed ACECs are analyzed in the Draft RMP/EIS which is subject to a 90 day public review and comment period. After the close of the 90 day public comment period, public comments are reviewed and adjustments to the proposed RMP and proposed ACECs are made and included in the Final RMP/EIS. Designation of ACECs occurs in the Record of Decision approving the RMP.

Identification / Nomination

Areas of Critical Environmental Concern can be nominated at anytime, but can only be designated through Land Use Plans. Nominations were solicited from the public during the public scoping process. The BLM requested nominations for ACECs at 4 public scoping meetings held in May 2005. In addition, request for nominations were sent to internal BLM staff in April 2005 and letters were sent out to interested publics in May of 2005. A total of 29 nominations were received from BLM staff and public sources.

Evaluation of Nominations for Relevance and Importance

Nominations were evaluated to determine whether they meet the relevance and importance criteria. The relevance and importance criteria are detailed in the "Evaluation Process" section of this report.

Consideration of Potential ACECs

Potential ACECs are considered as RMP alternatives are developed. Each potential ACEC is proposed for designation in at least one management alternative. The need for special management and the resulting effects from applying such management are assessed in the environmental impact statement. The Agency Preferred Alternative identifies which potential ACECs are proposed for designation.

Comment on Proposed ACECs

A notice of any areas proposed for ACEC designation is published in the Federal Register along with a Notice of Availability of the Draft RMP/EIS requesting public comment. Comments received on the Draft RMP/EIS will be considered in the preparation of the Final RMP/EIS. After a 30-day protest period, a Record of Decision is prepared and the plan is approved along with applicable ACECs (see below designation section).

Designation

A potential ACEC is proposed for designation if the area requires special management. Special management is defined as management outside of standard or routine practices, and usually includes more detail than other prescriptions contained within the plan. If analysis determines that special management is required, the area is recommended for designation of an ACEC. Designation of ACECs occurs when the Record of Decision is signed approving the RMP.

ACEC EVALUATION

The BLM is responsible for evaluating a nominated area to determine if it meets the relevance/importance criteria and requires special management. The WFO evaluation team was comprised of an interdisciplinary team composed of specialists with different resource backgrounds. The team evaluated nominations provided by the public and BLM staff. The evaluation considered current nominations and others compiled over the years. The WFO ACEC evaluation team was comprised of the following specialists:

Craig Drake	Hydrologist
Rod Herrick	Hazardous Material Specialist
Matthew Varner*	Wildlife Biologist
Mike Zielinski	Soil Scientist
Jeff Johnson	Planning & Environmental Coordinator

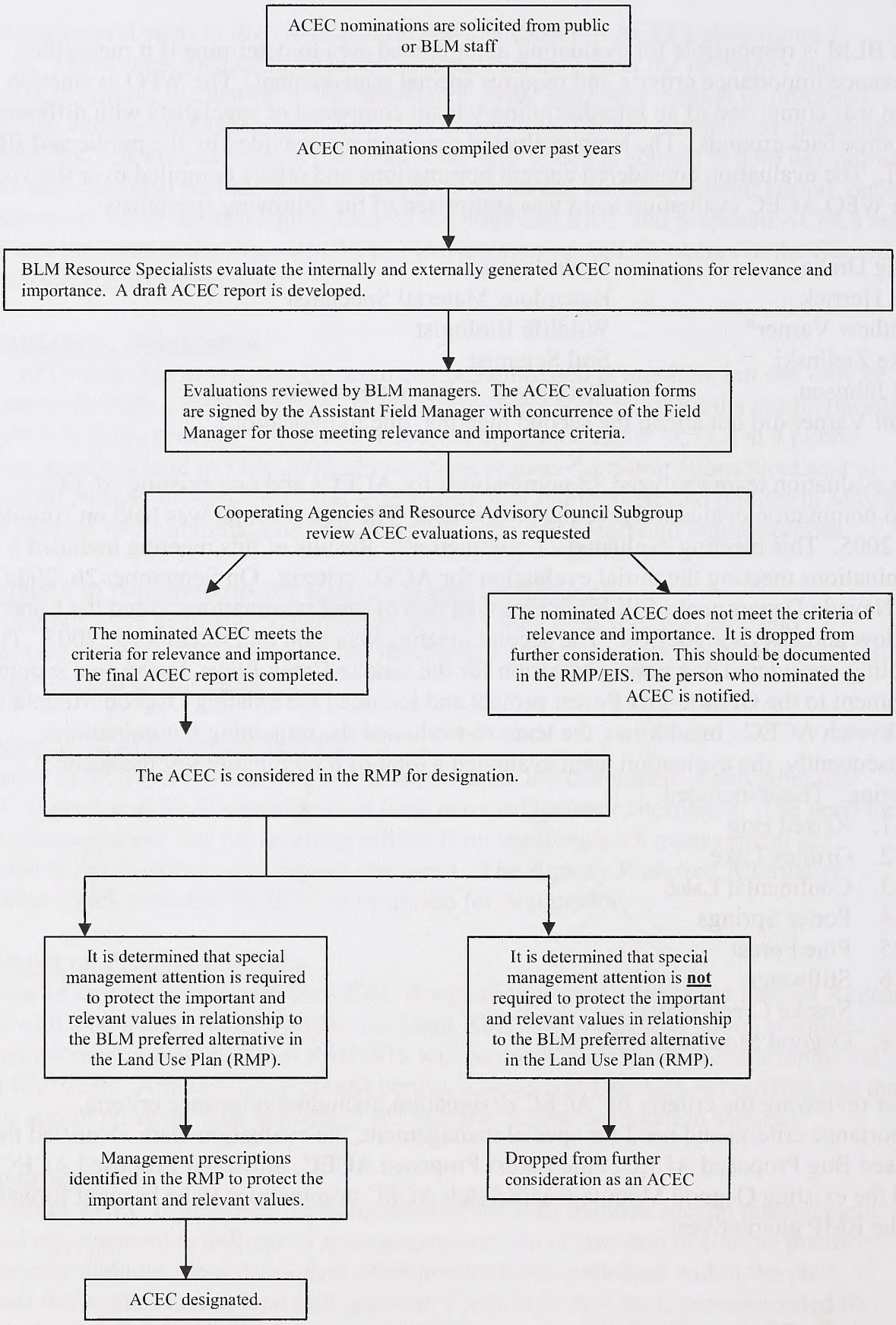
(Matt Varner did not attend the second meeting, due to relocation)

The evaluation team analyzed 28 nominations for ACECs and one existing ACEC. Two nomination evaluation meetings were held. The first meeting was held on August 31, 2005. This meeting evaluated 27 nominations. Results of this meeting included 8 nominations meeting the initial evaluation for ACEC criteria. On September 26, 2005, the Nevada Department of Wildlife removed two of their nominations; titled the Lone Willow and Owyhee ACECs. The second meeting was held on December 7, 2005. This meeting considered one new nomination for the Smoke Creek Playa, based on a scoping comment to the Granite-Fox Power project and included the existing Osgood Mountain Milkvetch ACEC. In addition, the team re-evaluated the remaining 6 nominations. Consequently, the evaluation team evaluated a total of 8 nominations at the second meeting. These included:

1. Raised Bog
2. Gridley Lake
3. Continental Lake
4. Porter Springs
5. Pine Forest
6. Stillwater
7. Smoke Creek Playa
8. Osgood Mountain Milkvetch.

After reviewing the criteria for ACEC designation, including relevance criteria, importance criteria and need for special management, the evaluation team identified the Raised Bog Proposed ACEC, Pine Forest Proposed ACEC, Stillwater Proposed ACEC and the existing Osgood Mountain Milkvetch ACEC nominations to be brought forward in the RMP alternatives.

Figure 1 – **WFO RMP ACEC Process**



IMPORTANCE & RELEVANCE EVALUATION OF ACEC NOMINATIONS

Existing or Proposed ACEC	Relevance Criteria #	Importance Criteria #	Recommend Yes or No	Comments
1. Pine Forest ACEC (Proposed by NDOW, 2005)	Yes – 2, 3, & 4	Yes – 1 & 2	Yes	-Need further discussion on ACEC boundary
2. Stillwater ACEC (Proposed by Fallon Tribe & Staff, 2005)	Yes - 1	Yes 1 & 2	Yes	Discuss options for ACEC boundary
3. Lovelock Cave/Leonard Petroglyphs (Proposed by Staff, 2005)	Yes – 1	Yes 1b, 2d	No	Leonard Rock Shelter and Petroglyphs are on private lands. Special management options would be through OHV travel , Spec. Recreation Mgt. Areas and Back Country By Ways.
4. Winnemucca Mtn. (Proposed by Staff, 2005)	Yes	No	No	Checkerboard land status – Could manage through OHV travel restrictions and VRM Mgt.
5. Porter Springs (Proposed by Staff and Sierra Club, 2005)	Yes - 2	Yes - 2	No	Not a Natural Area, man made ditches and introduced tree species. Manage as a special rec. area.
6. Black Rock Desert Archaeological District (Proposed by Cashion Callaway, Intermountain Research, 1988)	In NCA			
7. Smoke Cr. Desert Biological & Cultural Research Area- Bryan Hockett, UNR, 1988)	Yes	No	No	Nominator did not suggest any relevance values or nomination and the BLM is not aware of any significant values that would meet the relevance

Existing or Proposed ACEC	Relevance Criteria #	Importance Criteria #	Recommend Yes or No	Comments
				criteria.
8. Lower High Rock Canyon (Proposed APEX, 1988)	In NCA			
9. George Lund (Proposed APEX, 1988)	Yes	No	No	Current Mgt. protection OHV travel restrictions
10. Applegate "Cut Off" Trail (Proposed APEX, 1988)	In NCA			
11. Lahontan Trout Natural Area (Proposed APEX, 1988)	ISA Protection			Covered in NCA
12. China Gardens Dunes Scenic Area (Proposed APEX, 1988)	Yes – 2	No	No	Checkerboard land status, Special Mgt. Options – Special Rec. Mgt. Area
13.Water/Thomas Canyons (Proposed APEX, 1988)	Yes	No	No	Checkerboard land status, Special Mgt. Options - Spec. Rec. Mgt. Area – Consider land tenure adjustments to identify lands for acquisition
14. Soldier Meadows (Proposed APEX 1988)	NCA			
15. Double Hot Springs (Proposed APEX 1988)	NCA			
16. Quinn River (Proposed APEX, 1988)	NCA			
17. Hardin City (Proposed APEX, 1988)	NCA			
18. Sulphur Springs Wetlands (Proposed by Staff, 2005)	Yes – 2	No	No	Address through other management. Might have to be reclaimed per

Existing or Proposed ACEC	Relevance Criteria #	Importance Criteria #	Recommend Yes or No	Comments
				Mining Regulations.
19. Raised Bog (Proposed by Staff, 1981)	Yes – 3	1 & 2	Yes	Address boundary, management options OHV designation, and livestock mgt.
21. Hot Springs Mtn. (Proposed by Nature Conservancy, 1990)	Yes – 2 & 3	No	No	Management options - OHV travel restrictions. Issues: Fire and invasive species
22. Humboldt Range (Proposed by Nature Conservancy, 1990)	Yes – 3	Yes - 2	?	Mgt. Options; OHV designations, checkerboard land pattern, and invasive species,
23. McGill Canyon (Proposed by Nature Conservancy, 1990)	NCA - Wilderness			
24. Osgood Mtn. Milkvetch ACEC (Existing)	Yes- 3	Yes – 2	Yes	Define new mgt.
25. Gridley Lake	Yes – 2 & 3	Yes - 2	No	Playa not locally unique. Existing management could be implemented to include OHV closures, Burro removal, and seasonal restrictions during nesting season
26. Continental Lake	Yes – 2 & 3	Yes - 2	No	Same As Above
27. Owyhee	Nomination dropped by NDOW 9/26/05			
28. Lone Willow PMU ACEC	Nomination dropped by NDOW 9/26/05			
29. Smoke Creek Desert Playa	Yes – 2 & 3	No	No	Nominator did not suggest relevance values for nomination and BLM is not aware

Existing or Proposed ACEC	Relevance Criteria #	Importance Criteria #	Recommend Yes or No	Comments
				of any significant values that would meet relevance criteria.

STATEMENT OF FINDINGS

Based on nomination evaluation there are three areas and one existing ACEC that meet the criteria to be further considered as potential ACECs through the land use planning process. These are:

- Pine Forest ACEC nomination
- Stillwater ACEC nomination
- Raised Bog nomination
- Osgood Mountain Milkvetch – existing ACEC

Pine Forest Area

Description/ Values of Concern: This area is comprised of approximately 42,398 acres of diverse landscape encompassing elevations over 5,550. Notable lakes and reservoirs include; Blue Lakes, Onion Reservoir, Little Onion Reservoir, and Knott Creek Reservoir. Main habitats include sub-alpine limber and white bark pine trees, sagebrush step, large aspen stands, rocky talus slopes and several riparian areas. A portion of lands nominated in this area are within two Wilderness Study Areas. The high elevations in the Pine Forest Areas contains habitat that supports a diverse array of wildlife including; American Pika, Humboldt yellow-Pine Chipmunk, northern goshawk, sage grouse, mule deer, California Bighorn Sheep, pygmy rabbit, western jumping mouse, sage thrasher, Brewer's Sparrow, and an array of sagebrush obligate species. Lakes and reservoirs offer outstanding recreational opportunities including fishing, hunting, hiking and other outdoor activities.

Raised Bog Area:

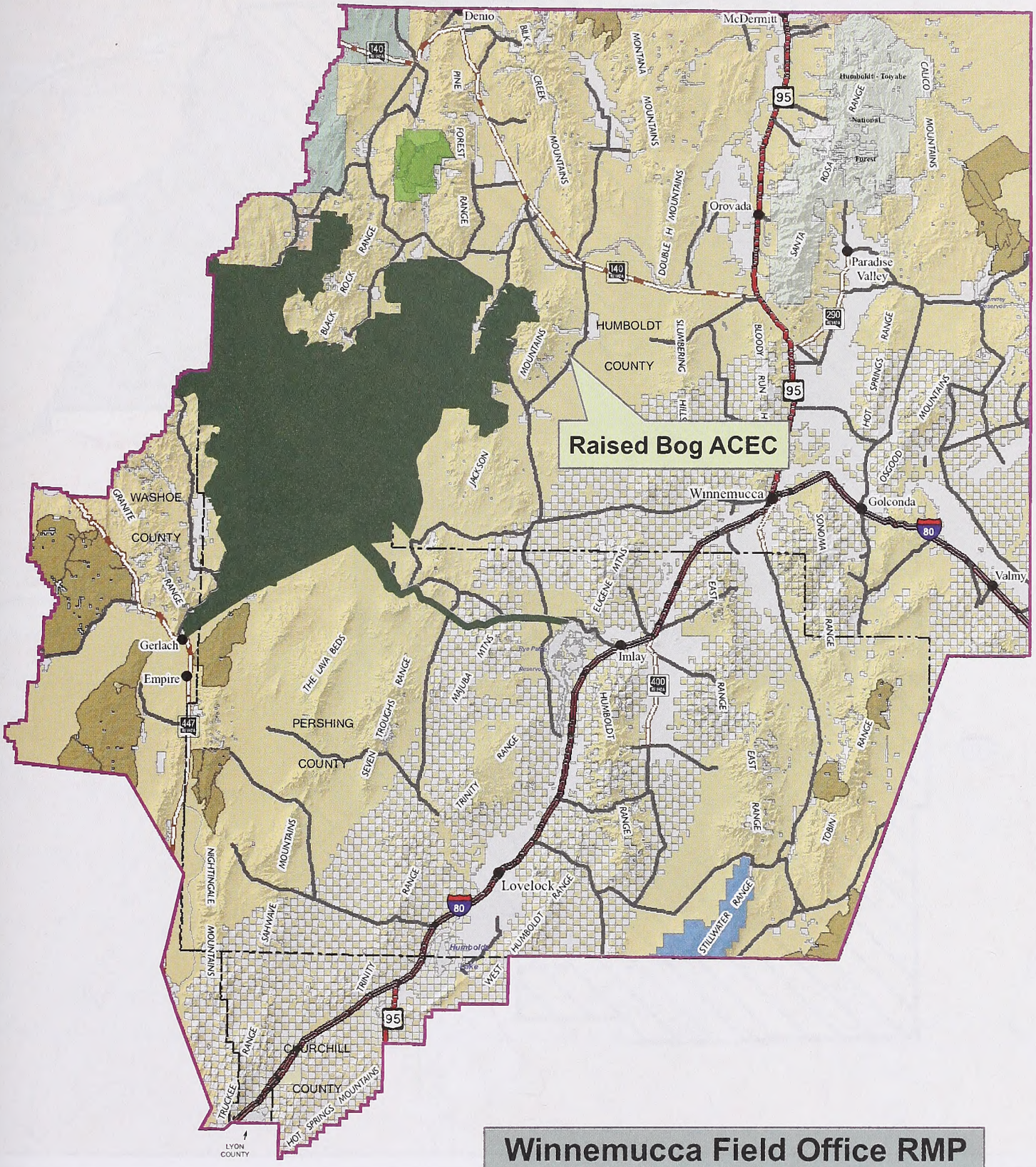
Description/Values of Concern: This 40 acre area contains a calcium rich spring whose source is a geologic fault. For several thousand years calcium deposits have accumulated forming a crater at the top of a mound. Slow decaying vegetation including sedges and rushes has gradually accumulated forming a bog. The bog is known as a quaking bog because of its buoyant properties. The bog is of immense scientific value as plant and animal remains have been preserved in the peat layers providing a record of past vegetation and flora of the region. It also provides and indication of climatic fluctuation during the life of the bog. Very few of these bogs are known to occur throughout the Great Basin.

Stillwater Range Area:

Description/Values of Concern: The Stillwater Range nomination is approximately 55,322 acres and contains significant historic, cultural, religious, and scenic values important to Native Americans. The Range is the heart of the aboriginal territory of the Fallon Paiute Shoshone Tribe and the Lovelock Tribe.
Pinyon-Juniper trees dominate the landscape and have been the source of traditional pinyon nut and wood harvesting in the area.

Osgood Mountain Milkvetch Area:

Description/Values of Concern: This 60 acre area is located at the top of the Osgood Mountains and contains a unique and rare plant species called the Osgood Mountain Milkvetch.



Winnemucca Field Office RMP Proposed ACECs

Legend

- Towns
- Counties
- BLM Winnemucca Field Office Administrative Boundary
- Black Rock/High Rock NCA RMP Area

Roads

- U.S. Interstate
- State Highway
- U.S. Highway
- County

Land Status

- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- Nevada State
- Private
- Water
- BLM Wilderness Study Area

Proposed Areas of Critical Environmental Concern

- Stillwater ACEC
- Pine Forest ACEC
- Raised Bog ACEC

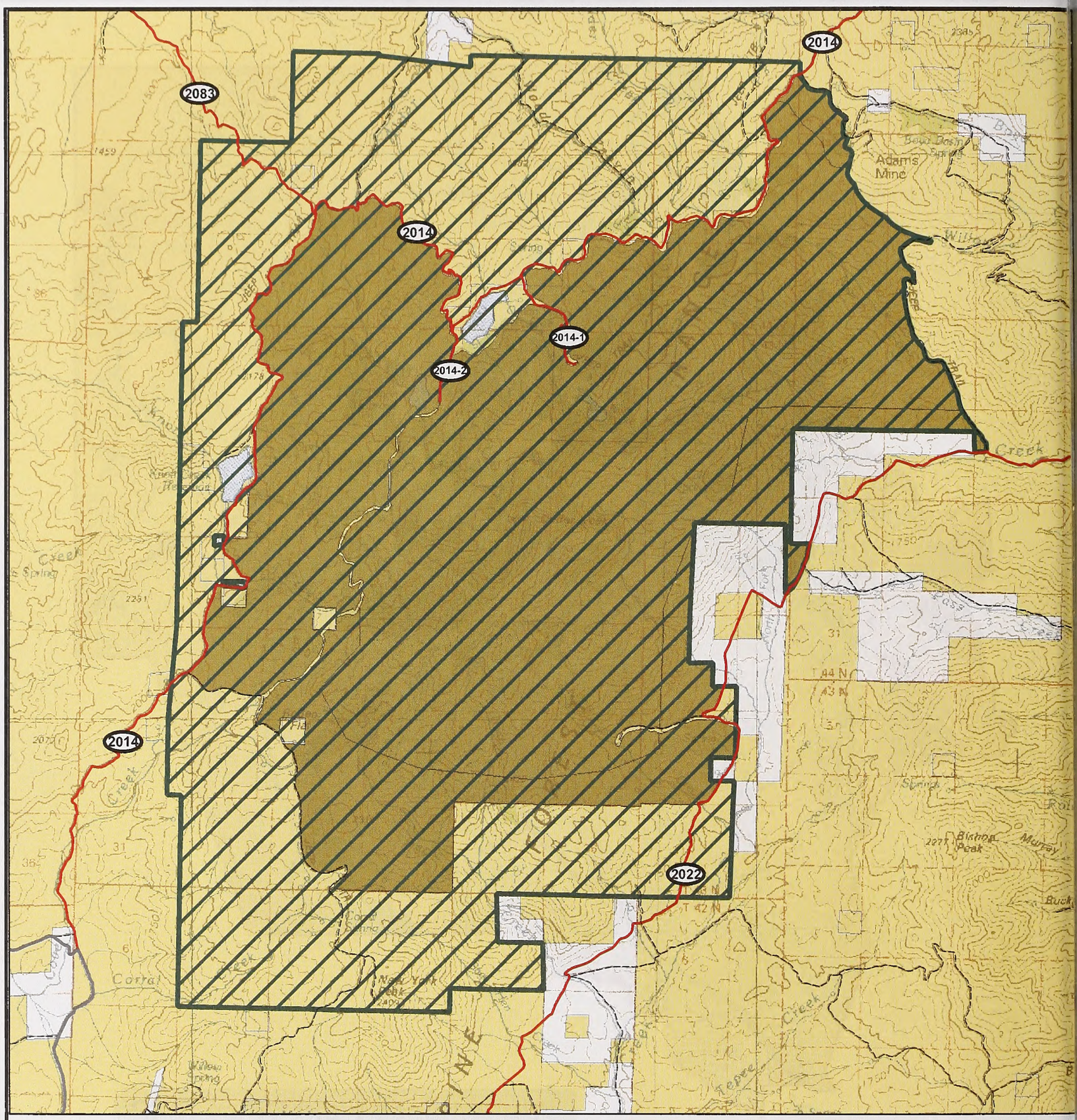
U.S. DEPARTMENT OF THE INTERIOR MARCH 3, 1849

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

N W E S

0 2.5 5 10 15 20 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. 9/1/06



Legend

Proposed Pine Forest ACEC

ROADS

- Other Dirt Road
- County Road
- BLM Road

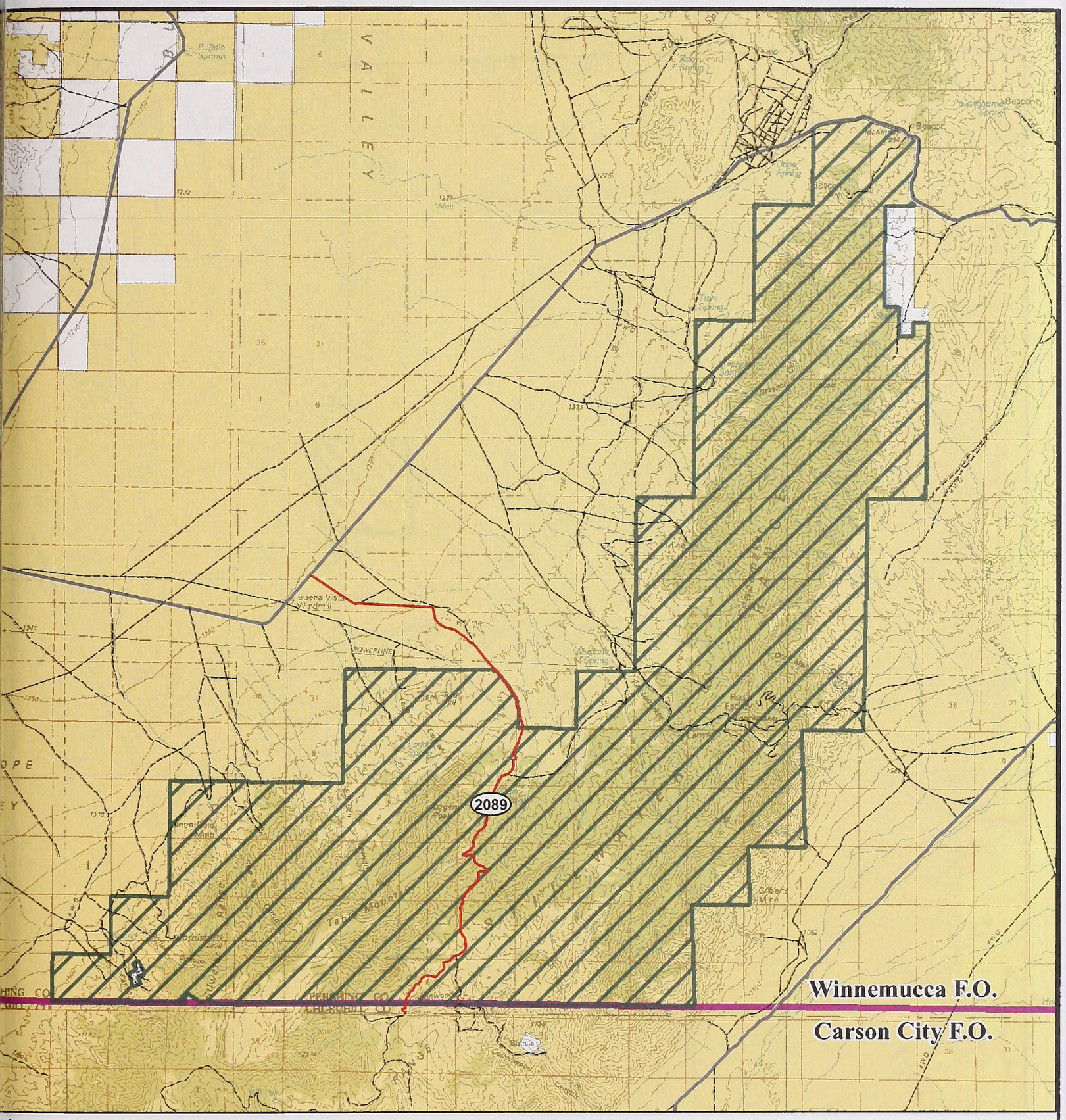
LAND STATUS

- Bureau of Land Management
- Private
- BLM Wilderness Study Area

Winnemucca Field Office RMP
Proposed Pine Forest ACEC

0 0.5 1 2 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. 9/1/06



Legend

- Proposed Stillwater ACEC
- BLM Winnemucca Field Office Administrative Boundary

ROADS

- Other Dirt Road
- County Road
- BLM Road

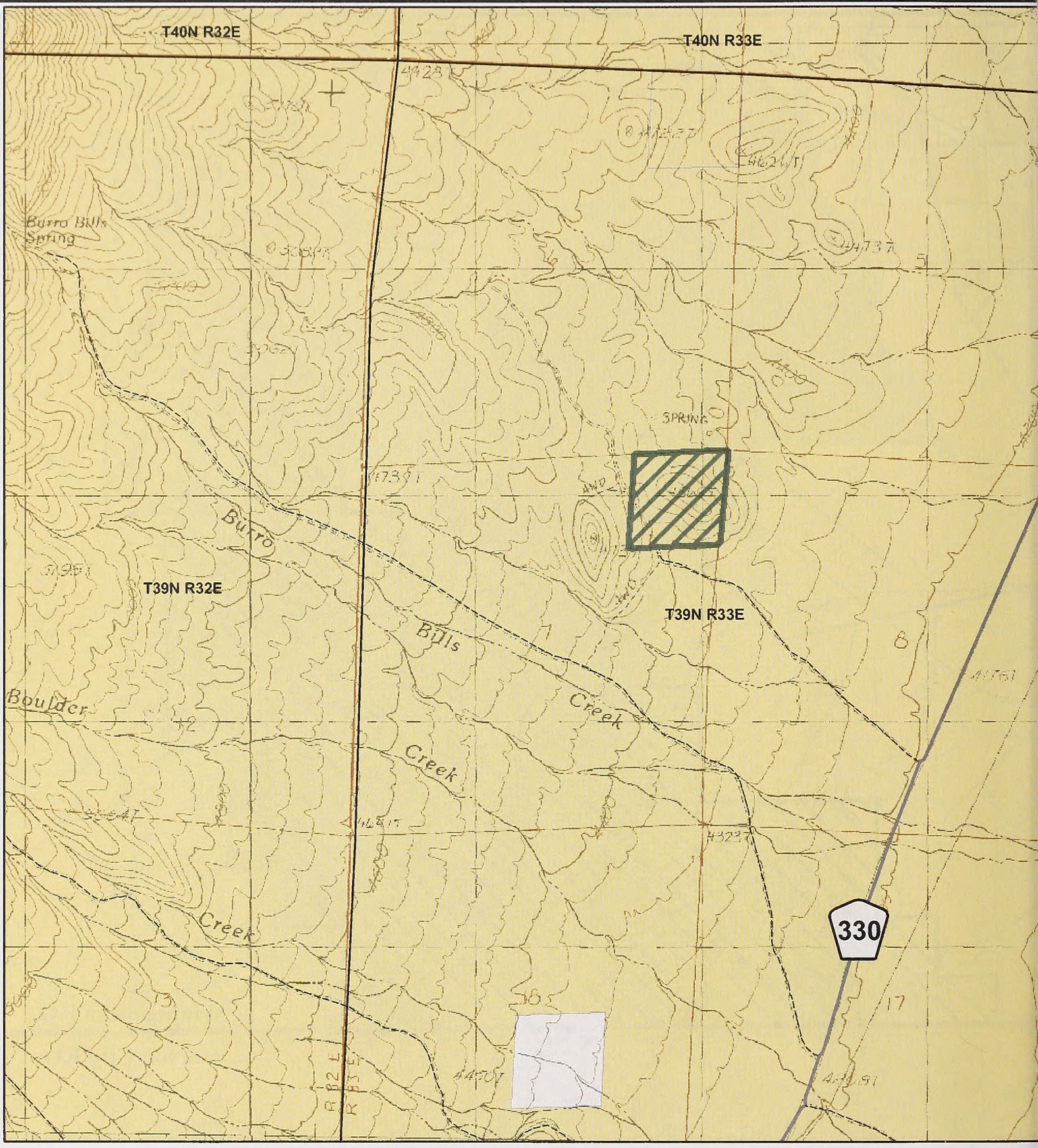
LAND STATUS

- Bureau of Land Management
- Private

Winnemucca Field Office RMP
Proposed Stillwater ACEC

0 0.5 1 2 3 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. 10/25/06



Raised Bog Proposed Area of Critical Environmental Concern (ACEC)

Raised Bog Proposed ACEC

Land Status

- Bureau of Land Management
- Private

Township

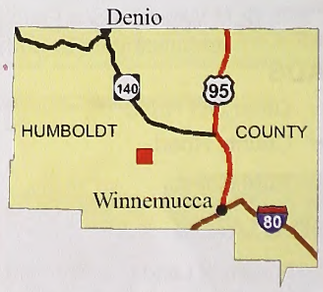
Roads

- Other Dirt Road
- County Road

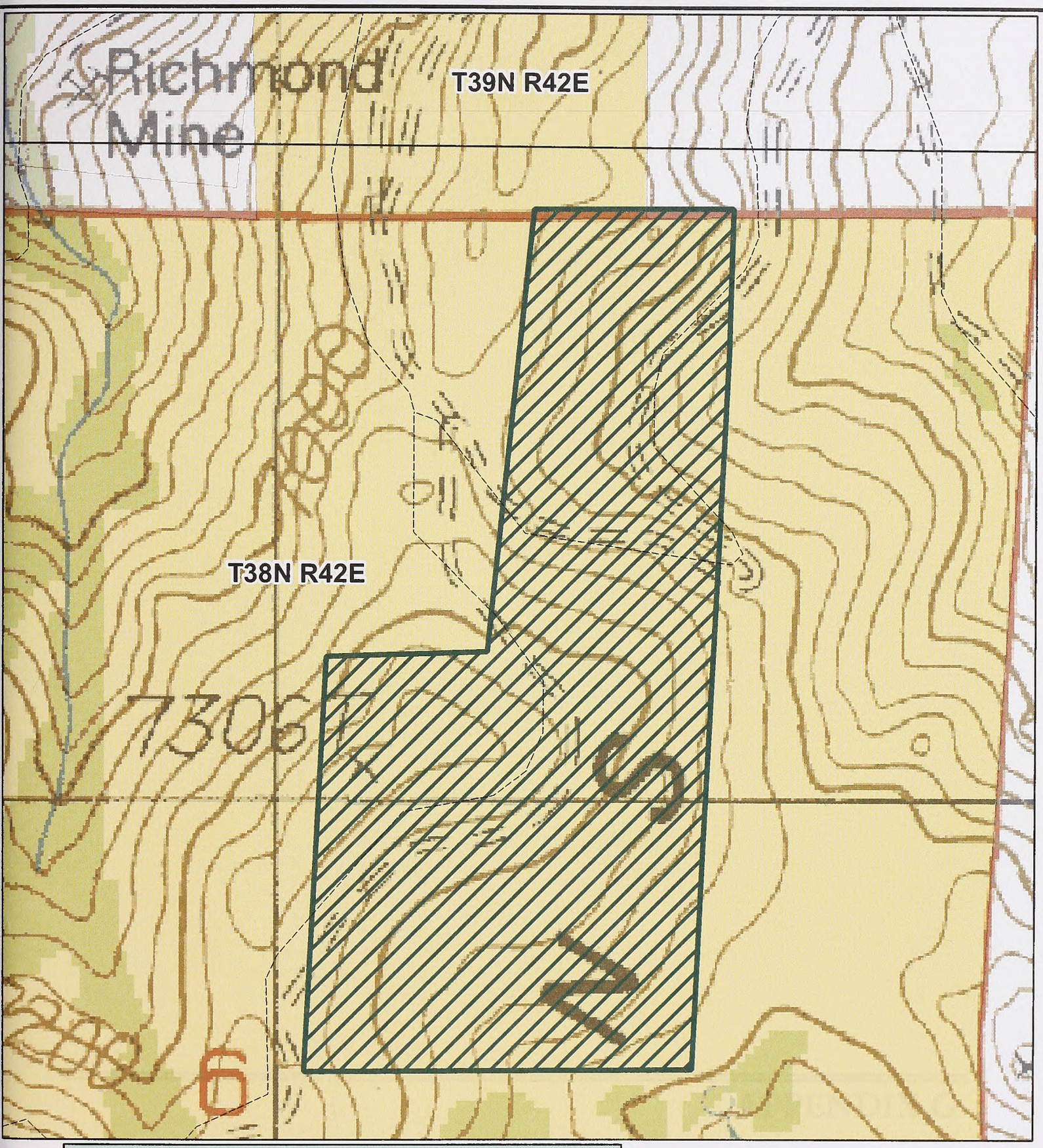
N
W E
S

0 0.25 0.5 1 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.
9/1/06



Map Detail Area



Osgood Mountains Milkvetch Area of Critical Environmental Concern (ACEC)

Osgood Mountains Milkvetch ACEC

Land Status

- Bureau of Land Management
- Private

Township

Roads

- Other Dirt Road

Riparian Area/Woodland

N
W E
S

0 75 150 300 Yards

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.
9/1/06

Map Detail Area

APPENDIX G

WILD AND SCENIC RIVER EVALUATION

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca Field Office
5100 East Winnemucca Boulevard
Winnemucca, Nevada 89445-2921
http://www.nv.blm.gov/winnemucca
(775) 623-1500 or wfoweb@nv.blm.gov

TAKE PRIDE IN AMERICA

In Reply Refer To:

NV-20.06
1610.RMP

Dear Reader/Interested Party:

Section 5(d)(1) of the Wild and Scenic Rivers Act (Public Law 90-542; 16 USC 1271-1287) directs federal agencies to consider potential Wild and Scenic Rivers (WSR) in the land use planning process. To fulfill this requirement, the Bureau of Land Management (BLM), Winnemucca Field Office (WFO), has identified and evaluated river segments that may be suitable under the Wild and Scenic River Act.

As part of the ongoing Winnemucca Resource Management Plan (RMP) process the WFO completed a WSR Report. This report documents the BLM's examination of WFO stream segments as they relate to eligibility and classification criteria under the WSR Act. A copy of the report is available for review by contacting the WFO at the above address/phone number or at the following web site http://www.nv.blm.gov/Winnemucca/.

It was determined that to be included in the eligibility assessment process the stream segments would be evaluated in conjunction with the following criteria:

1. The stream is free-flowing,
2. The stream contains one of the "Outstandingly Remarkable Values" (ORV) outlined in Section 1(b) of the Wild and Scenic Rivers Act,
3. Threatened and/or endangered species known to occur in the stream corridor automatically became an ORV (e.g. Lahontan cutthroat trout, if segments contained excellent spawning and rearing habitat for these fish), and
4. Habitat for common wildlife species was not considered to be an ORV.

Of the 165 drainages assessed in the WSR inventory 3 streams were identified as being potentially suitable and will be analyzed in the RMP/EIS. These are:

- North Fork of the Little Humboldt River
- Crowley Creek
- Washburn Creek

The Wild and Scenic River alternatives developed for analysis in the RMP/EIS are as follows:

- Alternative A: Current Management - none suitable (total mileage: 0)
- Alternative B: Economic Development - none suitable (total mileage: 0)
- Alternative C: Ecosystem Protection/Preservation - NF of the Little Humboldt (total mileage: 18), Crowley Creek (total mileage 13.6), Washburn Creek (total mileage 11.8)
- Alternative D: Agency Proposed - none suitable (total mileage: 0)

Following evaluation of impacts in the RMP/EIS, a congressional legislative action would be required for actual designation and final classification of any suitable river segments.

Thank you for your continued interest in the planning process.

Sincerely,

Gail G. Givens
Field Manager

United State Department of the Interior
Bureau of Land Management

Winnemucca Field Office November 2006

Wild and Scenic River Report

Crowley Creek.

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SECTION 1

1.1 Location and Description of Study Area

This report covers rivers within the Bureau of Land Management, Winnemucca Field Office (WFO). The Field Office administrative boundary covers approximately 8.4 million acres of public land. However, approximately 1.2 million acres of the field office is not part of this study area as it was designated by Congress as the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area and Associated Wilderness in late 2000. The WFO lies within the Great Basin ecosystem in northern Nevada. This region is characterized by broad sagebrush covered plains interspersed with many mountain ranges. Each mountain range is striated with a number of canyons all of which support perennial or intermittent creeks and streams. Most of the land administered by the WFO receives low rainfall, due to the shadow effect created by the Sierra Nevada Mountains. Average annual precipitation in the planning area varies between 5 and 15 inches, with most occurring as snow from November through March. Numerous small mountain streams flow within the area, many of which are perennial within their respective headwaters. Many of the streams are in terminal basins. Many basins contain deposits of salts remaining from evaporated Pleistocene lakes. Most stream flow occurs during the spring in direct response to the melting of the snow pack. Typical stream flow originates at the upper elevations and enters the stream by way of overland flow and shallow groundwater discharge (interflow). As this flow exits the mountain block and moves onto the alluvial fan, the surface expression is quickly lost as it infiltrates into the alluvium. Riparian vegetation exists in the mountainous areas prior to the water being lost as recharge to the alluvial aquifer. There are approximately 850 miles of perennial streams featuring three primary drainages. These are the Quinn, Owyhee, and Humboldt Rivers.

Private land in the WFO is generally located near and around water sources. Early settlers concentrated around springs and perennial bodies of water resulting in a patchwork of private lands along water sources. Checkerboard land ownership is another characteristic of the WFO, particularly along the I-80 corridor. The Railroad Act of 1862 granted to the railroad every other section of land, twenty miles on the railroad centerline to encourage western rail expansion. This grant resulted in a checkerboard pattern of public and private lands. Alternating public and private land sections create challenges for management of the land and rivers.

1.2 The Wild and Scenic River Study Process

The Wild and Scenic River study process is comprised of two main components: the inventory phase and the study phase. The inventory phase includes identifying eligible river and stream segments, assigning tentative classification (Wild, Scenic, or Recreational), and describing protective management for the eligible segments. The study phase includes determining the suitability of eligible segments for inclusion in the National Wild and Scenic Rivers System (NWSRS) and describing interim management measures.

1.2.1 The Inventory Process

The Wild and Scenic Rivers Act of October 2, 1968 (Public Law 90-542) requires the Bureau of Land Management to consider Wild and Scenic River values in its land use planning process. The objective of the Wild and Scenic Rivers (WSR) Act is to preserve in free-flowing condition selected rivers in the nation which possess outstandingly remarkable values and to protect those rivers and their immediate environments for the benefit of present and future generations.

Policy requires BLM to "identify and evaluate river segments within the resource management planning process to determine eligibility, tentative classification, protection requirements, and suitability under the Wild and Scenic River Act." The procedures by which the BLM determines eligibility and suitability and provides management direction are described in the USDI-USDA Final Revised Guidelines for Eligibility, Classification, and Management of River Areas *(Federal Register* Vol. 47, No. 173, September 7, 1982) and BLM Manual 8351.

The evaluation process for determining eligibility and suitability only applies to those portions of streams on public lands managed by the Bureau of Land Management.

1.2.2 Relationship of Wild and Scenic Rivers Act to Private Land

The basic objective of wild and scenic river designation is to maintain the existing condition of the river. If a land use or development clearly threatens the outstandingly remarkable value that resulted in designation of the river, efforts would be made to remove the threat through local zoning, land exchanges, purchases from willing sellers, and other actions except condemnation.

Agriculture and grazing activities occurring at the time of designation would generally not be affected. Under the WSR Act, designation neither gives nor implies government control of private lands within the river corridor. Although Congress (or the Secretary of the Interior for 2(a) (ii) rivers) could include private lands (in-holdings) within the boundaries of the designated river area, management restrictions will apply only to public lands. The federal government has no authority to regulate or zone private lands under the Act; however, administering agencies may highlight the need for amendments to local zoning (where state and local zoning occurs). People living within a river corridor will be able to use their property as they had before designation.

1.2.3 Inventory of Streams & Rivers in the Winnemucca Field Office Planning Area

Assessing eligibility of individual river segments for possible inclusion into the National Wild and Scenic River System (NWSRS) was accomplished by a team of BLM resource specialists. The team used personal knowledge, Geographic Information System (GIS) resources, the Nationwide Rivers Inventory and land ownership information to conduct the evaluations.

Because there are hundreds of dry washes, gullies and canyons as well as perennial, ephemeral, and intermittent streams within the planning area an objective method of selecting which drainages would be assessed for eligibility was developed.

It was determined that to be included in the eligibility assessment process the drainage would need to meet one of the following criteria

1. The stream is perennial, and

2. The stream contains one of the "Outstandingly Remarkable Values" outlined in Section 1(b) of the Wild and Scenic Rivers Act.

Table 1 shows all of the stream segments in the planning area that were assessed in the WSR inventory and their potential outstandingly remarkable values, if any.

SECTION 2

2.1 Eligibility Determination

The Wild and Scenic Rivers Act and Bureau of Land Management manual 8351 provide criteria for determining stream eligibility. The stream segment must be free-flowing and possess one or more outstandingly remarkable values (ORV). Most streams in the district have segments that are free-flowing. However, many of these streams have diversions in the lower portions, generally for agricultural purposes, which may affect the free flowing nature of the stream. The ORV categories are: scenic, recreational, geological, fish and wildlife, historic, prehistoric, and other similar values. To possess one of these values, the stream must be outstandingly remarkable when compared with other streams in the Northern Great Basin region.

The following additional criteria were used to select streams for eligibility:

1. Threatened and endangered or endangered species known to occur in the stream corridor automatically became an outstandingly remarkable value (e.g. Lahontan Cutthroat Trout), if segments contained excellent spawning and rearing habitat for these fish.
2. Habitat for common wildlife species was not an outstandingly remarkable value.

Scenic
The "scenic" ORV areas are of particularly exceptional views. Several of these stream segments contain gorges, notably the North Fork of the Little Humboldt River, Crowley Creek, and Washburn Creek. A number these creeks contain stands of aspen and cottonwood trees, which provide stunning fall colors.

Recreation
Recreation ORV areas include where fishing, camping, wildlife viewing or backcountry hiking opportunities are outstanding and are unusual enough to attract visitors to the geographic region. Several of the segments, namely the segments tentatively identified in the "Recreational" classification also have roads and two-tracks which provide access and opportunities for recreational driving or 4-wheeling.

Cultural
The "cultural" or "historic" ORVs are areas which indicate streams with historic or prehistoric remnants of human occupation. Given the preciousness of water across the arid Nevada landscape, rivers and streams were used as travel corridors, and permanent and semi-permanent settlements. For instance, several rock shelters and lithic scatters are found along the North Fork of the Little Humboldt River. Also, this segment has several old buildings present (ages unknown).

Geology
If a stream possesses the "geology" ORV, it contains outstanding geologic features such as deep gorges, lithologic and structurally complex formations, and structural features or areas featuring unique geology. The geologic composition itself may not be particularly unique but may be present in an unusual formation.

2.2 Potentially Eligible Streams

Of the 165 streams assessed in the WSR inventory 13 potential eligible streams were identified (See table 2), having free flowing water and may contain ORV(s).

A tentative classification of the stream is made once its eligibility is determined. The criteria for classification are defined in Section 2(b) of the WSR Act (see Table 3). Classification categories are Wild, Scenic, or Recreational, and are based on the type and degree of human development and access associated with the river and adjacent lands at the time of the inventory. The classification assigned during the inventory phase is tentative. Final classification is a Congressional legislative determination along with designation of a river segment as part of the NWSRS. A tentative classification, wild, scenic or recreational was also made for each of the 13 streams (see Table 3 for a description of these designations).

Upon further evaluation, 10 of the 13 streams did not have sufficient free flowing water, ORVs, and segments containing LCT Trout that did not contain excellent spawning or rearing habitat when compared to other streams within the Great Basin and were subsequently identified as not eligible.

The BLM identified 3 eligible stream segments to be considered for the tentative suitability study. These are:

- North Fork of the Little Humboldt River
- Crowley Creek
- Washburn Creek.

SECTION 3

3.1 Suitability Study Phase – Eligible River Segments

The purpose of the study phase is to determine whether eligible river segments are suitable or unsuitable for inclusion in the NWSRS per the criteria of the WSR Act. The suitability evaluation does not result in actual designation, but only a suitability determination for designation. BLM does not recommend any stream segments for designation into the NWSRS, and no stream segment studied is or will be automatically designated as part of the NWSRS. Only Congress can designate a Wild and Scenic River.

In some instances, the Secretary of the Interior may designate a Wild and Scenic River when the governor of a state, under certain conditions, petitions for a river to be designated. Congress will ultimately choose the legislative language of any suitable segments presented to them. Water-protection strategies and measures to meet the purposes of the WSR Act will be the responsibility of Congress in any legislation proposed. Rivers found unsuitable will be dropped from further consideration and managed according to the objectives outlined in the RMP.

Impacts that would occur from designation and non-designation of the eligible river segments are then analyzed in the EIS associated with the RMP. Public review and comment on suitability determinations included in the DRMP is considered before the BLM makes final suitability determinations.

3.2 Tentative Suitability Determination

The following thirteen factors, identified in BLM Manual Section 8351 (BLM 2001), are applied to each eligible river segment when completing the suitability study:

1. Characteristics that do or do not make the river a worthy addition to the NWSRS;
2. The status of land and minerals, use in the area, and associated or incompatible uses;
3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values that would be foreclosed or diminished if the area is not designated;
4. The federal or state agency that will administer the river should it be added to the NWSRS;
5. Federal, state, local, tribal, or other interests in designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including costs thereof, be shared by state, local, or other agencies and individuals;
6. The estimated cost to the United States of acquiring necessary lands, interests in lands, and of administering the area should it be added to the NWSRS;

7. A determination of the degree to which the state or its political subdivision(s) might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS.
8. The federal agencies ability or other mechanism (existing or potential) to protect and manage the identified river related values other than WSR designation.
9. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development.
10. Support or opposition to the designation.
11. Historical or existing rights which could be adversely affected.
12. The consistency of designation with other agency plans, programs, or policies and in meeting regional objectives.
13. The contribution to a river system, watershed, or basin integrity.

3.3 Tentative Suitability

Upon review of the list of eligible streams, the BLM team used suitability determination factors and the following questions to guide the development of suitable river alternatives:

1. Should the stream's free flowing character, water quality and ORV's be protected or are one or more other uses important enough to warrant doing otherwise?
2. Will the stream's free-flowing character, water quality, and ORV's be protected by designation?
3. Is the Wild and Scenic River designation the best method for protecting the stream corridor?

The 3 stream segments that have potential for inclusion in the NWSRS are:

North Fork of the Little Humboldt River
Length within Planning Area: 18.0 miles (see Map 3)
Tentative Classification: 18 miles Wild
Proposed Boundary: Approximate 0.5-mile corridor centered on the river from private land at Greeley Crossing to private land upstream of Chimney Reservoir

Crowley Creek
Length within Planning Area: 13.6 miles (see Map 4) in the Montana Mountains
Tentative Classification: 5 miles Wild and 8.6 miles Scenic
Proposed Boundary: Approximate 0.5-mile corridor centered on the river from the headwaters to private property

Washburn Creek
Length within Planning Area: 11.8 miles (see Map 5) in the Montana Mountains
Tentative Classification: 5 miles Wild and 6.8 miles Scenic
Proposed Boundary: Approximate 0.5-mile corridor centered on the river from the headwaters to confluence with Little Washburn Creek

SECTION 4

4.1 Tentative Suitability Recommendations

4.1.1 North Fork of the Little Humboldt River

1. Characteristics which do or do not make the area a worthy addition to the NWSRS.

   The North Fork of the Little Humboldt River contains the most outstandingly remarkable values. The outstandingly remarkable values that qualify this river segment as eligible for inclusion in the NWSRS are scenic, recreation, fish, geology, history, and prehistory, as described in Table 2. The free-flowing river is important to the scenic and recreation values. The segment found eligible here is entirely within a Wilderness Study Area.

   The North Fork of the Little Humboldt is generally free-flowing. However, there are two minor water impoundments along this stretch of river. Both lie on private land. A small irrigation diversion is located at T42N, R43E, Section 32, NE ¼, NE ¼. A culvert is located at Greeley Crossing T44N, R42E, Section 16.

   The specified river segment is largely undeveloped and quite remote. The main gorge, which begins at T44N, R42E, Section 23, has high scenic qualities: steep cliffs come straight down to the water's edge. The main gorge has walls 300-500 feet high. Below the main gorge, which ends at T42N, R43E, Section 21, the landscape flattens out again and resembles most other streams in the area.

   The gorge contains unique cliff vegetation with a number of unusual endemic and sensitive plant species. Two species found near the North Fork of the Little Humboldt are listed on the Nevada Native Plant Society list. Both *Artemisia packardiae* (Packard Mugwort) and *Hackelia ophiobia* (Rattlesnake stickseed) are listed as marginal.

   As is typical with any river in the Great Basin region water flows can vary greatly. Years of drought can greatly diminish the level of water. In 1982, the BLM and Forest Service completed a WSR evaluation for the North Fork of the Little Humboldt River. The report, North Fork of the Little Humboldt Wild and Scenic River Evaluation (August 1982), concludes that low water flows hinder opportunities for outdoor recreation as compared with other rivers. However, the report also indicates that it is an outstanding area with scenic and other ORVs.

The North Fork of the Little Humboldt provides opportunities for camping and fishing in a natural and primitive setting.

Other possible opportunities exist for hunting, backpacking, horseback riding, and geologic sightseeing. Potential for water sports, such as canoeing, rafting and tubing are moderate in the spring, but low stream flow and few natural pools can diminish these opportunities during the summer months. Opportunities for peace and solitude are high.

The bedrock along the river is volcanic or of volcanic origin. The upper reaches are composed of a conglomeration of older alluvial rocks, welded and non-welded siliceous, sedimentary tuff composition. The Tertiary rocks continue through the main gorge, which is composed of basalt overlain by rhyolitic flows. Before entering Chimney Reservoir, the river flows through Quaternary alluvium. The formation types are not considered to be unique or outstanding, but the shapes of the formations in the main gorge are outstanding.

Numerous cultural sites have been found along the river. Ezra's Retreat, an Indian rock shelter, is found at the mouth of the main gorge. Several other rock shelters have been found along the river. The North Fork Lithic Scatter has been used as a study plot to determine erosion patterns.

The lower portion of the watershed shows the effects of past heavy grazing use.

2. Status of landownership, minerals, use in the area, including the amount of private land involved and associated or incompatible uses.

   The North Fork of the Little Humboldt River lies principally upon lands managed by the BLM, Winnemucca Field Office. Of the 5,417 acres within the corridor, 99% lies on BLM land and 1% on private land. Use in the area consists primarily of livestock grazing and dispersed recreation. There is low to no mineral or oil and gas potential in the area surrounding the stream corridor, though there is moderate geothermal potential to the southeast of the river—well outside the 0.5 mile corridor. There are no mining claims in the corridor.

3. Reasonably foreseeable potential uses of the land and related water which would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values which could be foreclosed or diminished if the area is not protected as part of the NWSRS.

   There are limited foreseeable potential uses of the land and water within the North Fork of the Little Humboldt due to access constraints. The steep gorge walls limit access to the stream. Access is easiest at Greeley Crossing. Below this crossing motorized access is limited until the river leaves the main gorge. A primitive road follows the river until a point near Chimney Reservoir. This road is within 0.25 miles of the river for approximately 2 miles; at places it is within 400 feet of the edge of the gorge. It would not be visible from the river itself due to the high walls of the gorge. The river is accessible by horse or foot except for the steeper parts of the gorges. One fence crosses the stream near Greeley Crossing.

4. The federal or state agency that will administer the river should it be added to the NWSRS.

   The river segment specified would be entirely managed by the Bureau of Land Management, Winnemucca Field Office.

5. Federal, state, local, tribal, or other interests in designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including costs thereof, be shared by state, local, or other agencies and individuals.

   The BLM did not receive any public comments showing interest in designating the North Fork of the Little Humboldt. The river flows over 5 miles of National Forest Land, upstream of the segment described here. This upstream segment from the headwaters in the Humboldt National Forest to where it enters BLM managed lands is not a notably scenic or exceptional segment of the river. However, were designation for this river to occur visitation would likely increase, and this would trickle over onto National Forest Lands. There have been no proposals to jointly share the costs of administration of the North Fork of the Little Humboldt with the Forest Service were it to be added to the NWSRS.

6. The estimated cost to the United States of acquiring necessary lands, interests in lands, and of administering the area should it be added to the NWSRS.

   The BLM would not actively pursue the acquisition of the private lands within the proposed boundary. The BLM would consider acquisition under a willing seller/willing buyer basis if opportunities were presented. Acquisition of private lands may make it easier to manage the segment for the protection of identified values.

   Management of segments of the North Fork of the Little Humboldt within the Wilderness Study Area could increase cost of WSA interim management compliance as designation may draw more people into the area.

7. A determination of the degree to which the state or its political subdivision(s) might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS.

   It is not anticipated that there would be great interest from the state of Nevada for administration of the river were it to be included in the NWSRS. The only likely interest would be in the form of increased or increasing tourism to the state. This would probably take the form of advertising. However, any increase in visitation would likely not be substantial due to the remoteness of the site.

8. Federal agency ability or other mechanisms (existing or potential) to protect and manage the identified river related values other than WSA.

   Currently, the eligible portion of the North Fork of the Little Humboldt River is protected as a WSA. In addition, the BLM is preparing a Resource Management Plan which has identified the North Fork of the Little Humboldt River watershed as a priority watershed management area. Goals, Objectives and Management actions are specifically being developed that will protect portions of the watershed.

9. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development.

   Local zoning and other use controls to protect ORVs are not anticipated due to the rural location of the river.

10. Support or opposition to designation.

    Based on input from public scoping and other meetings there would be opposition for WSR designation. Due to the NCA legislation, existing WSA's and potential new Areas of Critical Environmental Concern, a portion of the public is opposed to additional designations.

11. Historical or existing rights which could be adversely affected.

    Currently there are no active mining claims within the area of the North Fork of the Little Humboldt River.

12. The consistency of designation with other agency plans, programs or policies and in meeting regional objectives.

    Designation may increase visitation to adjoining Forest Service lands. This could change Forest Service policies and objectives to meet increased visitation.

13. The contribution to a river system, watershed, or basin integrity.

    Designation may increase visitation and uses within the watershed which could have minimal water quality or flow impacts to downstream river systems.

    Summary: Currently the eligible portions of the North Fork of the Little Humboldt River are protected within a WSA. The RMP being developed has identified the watershed of the North Fork of the Little Humboldt River as a priority watershed. Goals, objectives and management actions are being developed to protect this priority watershed and stream segment. Protection afforded by the WSA designation plus additional management protective measures being developed in the RMP should ensure ORVs are adequately protected. Public input has indicated there would be controversy and opposition to the designation.

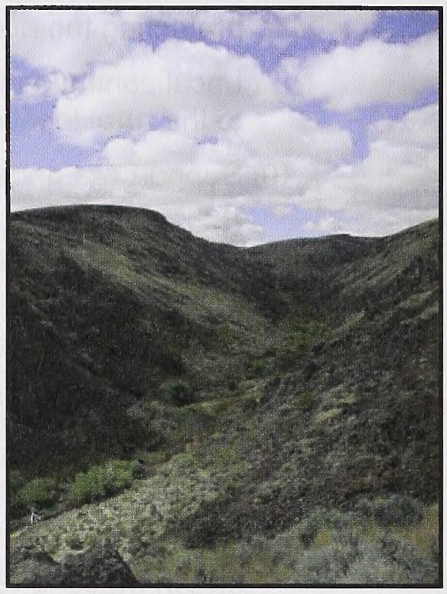
4.1.2 Crowley Creek

1. Characteristics which do or do not make the area a worthy addition to the NWSRS.

   The outstandingly remarkable values that qualify this river segment as eligible for inclusion in the NWSRS are fish, scenic, and recreation, as described in Table 2. The upper reaches of Crowley Creek flow through a canyon. The canyon walls are largely comprised of large, red rock fields dotted with sagebrush. The canyon bottom, however, is covered with willow, rose and aspen. Populations of beaver have created several pools along the main Crowley Creek channel.

   This segment contains a population of Lahontan Cutthroat Trout, which is a federally listed species under the 1973 Endangered Species Act. Crowley Creek contains excellent spawning and rearing habitat for these fish. The flow of Crowley Creek is 5.0 cubic feet per second (2000).

2. Status of landownership, minerals, use in the area, including the amount of private land involved and associated or incompatible uses.



The segment of Crowley Creek found eligible lies entirely on lands administered by the BLM, Winnemucca Field Office. Of the 4336 acres within the specified corridor 100% lies on BLM land. Use in the area principally consists of cattle grazing and dispersed recreation. There are some impacts from grazing found along the stream channel, but it is considered light. The creek has been closed to anglers since 1988 to protect Lahontan Cutthroat Trout habitat.

The geologic landform substrate is chiefly of alluvium deposits on the valley floor throughout the lower and central portions, with basalt and rhyolite being prominent through the canyon.

3. Reasonably foreseeable potential uses of the land and related water which would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values which could be foreclosed or diminished if the area is not protected as part of the NWSRS.

Motorized access to this stream segment is available along the lower portions by a dirt road that follows the stream for approximately 7 miles, crossing the stream once. The dirt track ends at T46N, R35E, Section 36. The upper reaches of the stream are accessible by foot. Generally the canyon walls are too steep and rocky for travel by horseback, though horse or ATV could be used on the hill tops above the canyon.

If designated, the upstream portion, tentatively classified as Wild, the BLM would limit the construction and maintenance of any proposed diversion structures. If designated, the BLM would not allow mineral, oil, gas, or geothermal leasing activities to occur within the segment's boundary. Designation could also attract more visitors increasing traffic and use of the stream. Both of these factors could affect water quality.

There is one fence (Disaster Peak Seasonal Fence) that crosses the stream. This occurs in the portion tentatively classified as Scenic.

4. The federal or state agency that will administer the river should it be added to the NWSRS.

The selected segment of Crowley Creek is on land entirely administered by the BLM. It is not proposed that administration of the area be shared by another federal, state or local agency.

5. Federal, state, local, tribal, or other interests in designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including costs thereof, be shared by state, local, or other agencies and individuals.

The BLM did not receive any public comments interested in designating Crowley Creek. It is not proposed here to jointly share the costs of administration of Crowley were it to be added to the NWSRS with any federal, state or local agency.

6. The estimated cost to the United States of acquiring necessary lands, interests in lands, and of administering the area should it be added to the NWSRS.

   The indicated portion of Crowley Creek lies entirely on lands administered by the BLM, Winnemucca Field Office. Therefore there would be no need to obtain any private, or other lands. Cost to manage Crowley Creek WSA would increase due to potential increase in public visitation.

7. A determination of the degree to which the state or its political subdivision(s) might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS.

   It is not anticipated that there would be interest from the state of Nevada for administration of the river were it to be included in the NWSRS.

8. Federal agency ability or other mechanisms (existing or potential) to protect and manage the identified river related values other than WSA.

   The BLM is preparing a Resource Management Plan which has identified the Crowley Creek watershed as a priority watershed. Goals, Objectives and Management actions are being developed that will protect river related values in the RMP.

9. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development.

   Local zoning and other use controls are not anticipated due to the rural location of the river.

10. Support or opposition to designation.

    Based on input from public scoping and other meetings there would be opposition for WSR designation. Due to the NCA legislation, existing WSA's and potential new Areas of Critical Environmental Concern, a portion of the public is opposed to additional designations.

11. Historical or existing rights which could be adversely affected.

    Active mining claims occur within the Crowley Creek segment.

12. The consistency of designation with other agency plans, programs or policies and in meeting regional objectives.

    No conflicts identified

13. The contribution to a river system, watershed, or basin integrity.

    Designation may increase visitation and uses within the watershed which could have minimal adverse impacts to downstream river systems.

Summary: The RMP has identified Crowley Creek as a priority watershed. Goals, Objectives and management actions are being developed to protect the watershed and stream segment as the RMP is being developed. Public input has indicated there would be controversy and opposition to the designation. Water flows within the creek are subject to seasonal fluctuation with low flows during the summer months.

4.1.3 Washburn Creek

1. Characteristics which do or do not make the area a worthy addition to the NWSRS.

   The outstandingly remarkable values that qualify this river segment as eligible for inclusion in the NWSRS are fish, scenic, and recreation. Similarly to Crowley Creek, Washburn Creek contains excellent Lahontan Cutthroat Trout habitat. This stream has also been closed to anglers since 1988 to protect the Trout.

   Washburn Creek flows from the Montana Mountains through a broad valley. The valley contains abundant willow and sagebrush, interspersed with stands of aspen. Dispersed recreation opportunities include hiking, horseback riding, camping and hunting. These opportunities are influenced by steep and rocky terrain which may restrict access into areas.

   The geological landform substrate is comprised principally of alluvium deposits on the valley floor at the lower reaches of the creek, with basalt, andesite and silicic tuffs at the upper reaches.

2. Status of landownership, minerals, use in the area, including the amount of private land involved and associated or incompatible uses.

   Washburn Creek and its associated 0.5 mile corridor described here, lies entirely on lands managed by the BLM, Winnemucca Field Office. Of the 3,830 acres within this corridor all are managed by the BLM.

   Uses of the land are primarily livestock grazing and dispersed recreation.

3. Reasonably foreseeable potential uses of the land and related water which would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values which could be foreclosed or diminished if the area is not protected as part of the NWSRS.

   Washburn Creek is accessible in its lower and headwater portions by 4-wheel drive jeep trails. The central segment, tentatively classified as Wild, is only accessible by foot or horseback. Designation could also attract more visitors, increasing traffic and use of the stream. Both of these factors could affect water quality.

   There is one grazing allotment fence (Jordan Meadows) that crosses the stream through the central portion, tentatively designated as Wild. There is also a seasonal fence that crosses downstream, in the portion tentatively classified as Scenic.

4. The federal or state agency that will administer the river should it be added to the NWSRS.

This stream lies entirely upon lands managed by the BLM. Consequently, it is currently proposed that administration of the stream, should it be added to the NWSRS, would be the BLM.

5. Federal, state, local, tribal, or other interests in designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including costs thereof, be shared by state, local, or other agencies and individuals.

   The BLM did not receive any public comments interested in designating Washburn Creek. It is not proposed here to jointly share the costs of administration of Crowley were it to be added to the NWSRS with any federal, state or local agency.

6. The estimated cost to the United States of acquiring necessary lands, interests in lands, and of administering the area should it be added to the NWSRS.

   The indicated portion of Washburn Creek lies entirely on lands administered by the BLM, Winnemucca Field Office. Therefore there would be no need to obtain any private or other lands.

7. A determination of the degree to which the state or its political subdivision(s) might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS.

   It is not anticipated that there would be interest from the state of Nevada for administration of the river were it to be included in the NWSRS.

8. Federal agency ability or other mechanisms (existing or potential) to protect and manage the identified river related values other than WSA.

   The BLM is preparing a Resource Management Plan which has identified the Washburn Creek watershed as a priority watershed. Goals, Objectives and Management actions are being developed that will protect river related values in the RMP.

9. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development.

   Local zoning and other use controls are not anticipated due to the rural location of the river.

10. Support or opposition to designation.

    Based on input from public scoping and other meetings there would be opposition for WSR designation. Due to the NCA legislation, existing WSA's and potential new Areas of Critical Environmental Concern, a portion of the public is opposed to additional designations.

11. Historical or existing rights which could be adversely affected.

    Active mining claims occur within the Washburn Creek segment.

12. The consistency of designation with other agency plans, programs or policies and in meeting regional objectives.

    No conflicts identified

13. The contribution to a river system, watershed, or basin integrity.

Designation may increase visitation and uses within the watershed which could have minimal impacts to downstream river systems.

Summary: The RMP has identified Washburn Creek as a priority watershed. Goals, objectives and management actions are being developed to protect the watershed and stream segment. Public input has indicated there would be controversy and opposition to the designation. Water flows within the creek are subject to seasonal fluctuation with low flows during the summer months.

SECTION 5

5.1 Management and Protection Considerations

Two important land uses in northern Nevada are grazing and mineral exploration. These are to some degree nonconforming land uses in or near a Wild and Scenic River.

Continued cattle grazing on public land on or near a Wild and Scenic River should be managed in a manner which maintains or improves forage production, maintains or enhances riparian vegetation, wildlife habitat, watershed and scenic values, and minimizes conflict between livestock and recreationists.

Construction of livestock management facilities such as fences or water sources, should comply with scenic restrictions appropriate to the classification of the Wild and Scenic River segment. If necessary to the designated segment consideration some facilities on private lands, such as fences or corrals, may be removed or relocated subject to obtaining scenic easements. Exclusion of livestock from high visitor use areas, such as campsites, through fencing or changes in use seasons may also be necessary.

An inventory of mineral resources and mining claims should be conducted upon designation of a Wild and Scenic River to assist in management planning. Depending upon the classification of the stream, development of mineral resources are provided for in the Act, in such a manner as to prevent degradation of the aesthetic, prehistoric, historic, geologic, and primitive features of the area. Needed actions may include mining claim validity determinations, and scenic easements.

5.2 Interim Management

Interim management for the eligible river segments is described in Table 4.

5.3 Alternatives

BLM Manual 8351, Section .33C states in part: "At least one alternative analyzed in detail shall provide for designation of those eligible river segments being studied in the RMP/EIS in accordance with tentative classification which have been made." The BLM is bringing forward the North Fork of the Little

Humboldt River, Crowley Creek, and Washburn Creek in one alternative of the RMP.

The RMP alternatives developed:

- Alternative A: Current Management - none suitable (total mileage: 0)
- Alternative B: Economic Development - none suitable (total mileage: 0)
- Alternative C: Ecosystem Protection/Preservation - NF of the Little Humboldt only (total mileage: 18), Crowley Creek (total mileage 13.6), Washburn Creek (total mileage 11.8)
- Alternative D: Agency Proposed - none suitable (total mileage: 0)

Congressional legislative action is required for actual designation and final classification of suitable river segments.

The following people provided input to this process:

Craig Drake	Matt Varner	Brian Murdock
Emily Harris	Jeff D. Johnson	Dave Valentine
Allan Jenne (NDOW)	Peggy McGuckian	

Table 1: Wild & Scenic River Study Inventory

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Bilk Creek Mountains									
Alkali Creek									
Bilk Creek		Y	Y						
Cherry Creek									
House Creek									
Little Wilder Creek									
Log Cabin Creek		Y							
Maggie Creek, NF									
Mud Creek									
Raster Creek									
Rodeo Creek									
Wilder Creek									
Black Rock Range									
Bartlett Creek									
Battle Creek		Y	Y						
Butte Creek									
Center Creek									
Paiute Creek									
Rough Canyon									
East Range									
Peavine Canyon									
Rockhill Canyon									
Eugene Mountains									
Central Canyon Creek									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Chicken Basin Spring									
Woody Canyon Creek									
Granite Range									
Clear Creek		Y							
Cottonwood Creek		Y	Y						
Granite Creek									
Little Cottonwood Creek									
Negro Creek, NF & MF									
Red Mountain Creek									
Rock Creek									
Unnamed Creek (T34N R22E Sections 14, 15, 22, 23, 27)									
Wagontire Creek									
Humboldt Range									
American Creek									
Antelope Creek									
Black Canyon Creek									
Bloody Canyon Creek									
Buena Vista Creek									
Buffalo Canyon Creek									
Cottonwood Canyon									
Coyote Creek		Y							
Echo Canyon									
Fisher Canyon									
Indian Creek									
John Brown Canyon Creek									
Humboldt Range									
Rocky Canyon Creek									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Santa Clara Canyon									
Star Creek									
Straight Canyon									
Wilson Canyon Creek									
Wright Canyon Creek									
Jackson Mountains									
Big Creek									
Bottle Creek									
Deer Creek									
Happy Creek									
Trout Creek									
Willow Creek									
Montana Mountains									
Calavera Canyon									
Crowley Creek		Y	Y		Y				
Horse Creek									
Pole Creek									
Riser Creek			Y		Y				
Washburn Creek		Y	Y		Y				
Osgoods									
Anderson Creek									
Julian Creek									
Pine Forest Range									
Alder Creek									
Alta Creek									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Big Creek									
Bishop Canyon Creek									
Boyd Creek									
Boyd Creek									
Buckaroo Canyon Creek									
Cherry Gulch									
Chicken Creek									
Corral Creek									
Cove Creek									
Cow Creek									
Craine Creek									
Granite Creek									
Knott Creek									
Leonard Creek									
Little Alder Creek									
Little Alder Creek									
Oakley Creek									
Pass Creek									
Road Canyon									
Sage Hen Creek									
Willow Creek									
Woody Canyon									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Santa Rosa Range									
Abel Creek									
Adorno Creek									
Antelope Creek	N								
Austin Creek									
Buffalo Canyon									
Cottonwood Creek									
Dry Creek									
Eagle Creek									
Falls Canyon Creek									
Hansen Creek, NF									
Horse Canyon Creek									
Indian Creek									
Lamance Creek									
Leonard Creek									
Little Cottonwood Creek									
Martin Creek									
Morey Creek									
Mullinix Creek									
Peterman Creek									
Pole Creek									
Provo Canyon Creek									
Rock Creek									
Singas Creek									
Solid Silver Creek									
Stonehouse Creek									
Threemile Creek									
Unnamed perennial (T40N R38E S10, 16)									
Santa Rosa Range									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Unnamed perennial (T40N R39E S6, 8)									
Wash O'Neil Creek									
Willow Creek									
Sonoma Range									
Clear Creek		Y	Y						
Clearwater Canyon Creek									
Cumberland Creek									
Devils Canyon									
Elbow Canyon, MF									
Granite Canyon Creek									
Harmony Canyon Creek									
Kluncy Canyon Creek									
Layson Creek									
Pole Creek									
Polkinghorne Canyon									
Robber Creek									
Rock Creek									
Sonoma Creek									
Squaw Valley Creek									
Thomas Canyon Creek									
Water Canyon Creek		Y	Y						
Tobin Range									
Bushee Creek									
Garden Canyon									
Golconda Canyon									
Hoffman Canyon Creek									
Tobin Range									

Mountain Range/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Pollard Canyon Creek									
Unnamed Creek (T32N, R31E, Section 17, 18)									
Trout Creek Mountains									
China Creek									
Cold Springs Creek									
Corral Canyon Creek			Y		Y				
Flat Creek, NF									
King River									
Line Canyon Creek			Y		Y				
Little Creek									
McDermitt Creek			Y		Y				
Sage Creek			Y		Y				
Other									
Calico Creek									
Kelly Creek									
Kenny Creek									
Little Humboldt, NF	Y	Y	Y	Y			Y	Y	
Little Humboldt, SF									
Little Owyhee River									
Quinn River		Y	Y				Y		
Humboldt River			Y				Y	Y	
Kings River		Y	Y						
New York Canyon Creek (Stillwater Range)									
Rodeo Creek (Fox Range)									

General Area/Stream Name	Free Flowing	Potential outstandingly remarkable values							
		Scenery	Recreation	Geology	LCT *	Wildlife	Prehistory	History	Other Values
Removed (non-perennial on public land)									
Garden Creek									
Virgin Creek									
Broad Gulch									
Say Canyon									
Granite Creek, EF & WF									

* Source: Recovery Plan for the Lahontan Cutthroat Trout, Jan. 1995, U.S Fish and Wildlife Service – Region 1

Table 2: Potential Eligible Streams

Stream Name	Segment Description and Approximate Length	Outstandingly Remarkable Value[2]	Tentative Classification
Battle Creek	Black Rock Range From Wilderness border to private property- both North and South Forks (6.6 miles total- all on BLM land)	Scenic recreation	All Wild
Bilk Creek	Bilk Creek Mountains T44N R32E from private land in Section 02 to private land in Section 26 (4.8 miles total- all on BLM land)	Scenic, recreation	1.8 miles Recreational 3 miles Scenic
Bottle Creek	Jackson Mountains Headwaters (including main fork, unnamed fork to the south, and Big South Fork) to private land (9.3 miles total- all on BLM land)	Scenic, recreation	All Recreational
Clear Creek	Sonoma Range From headwaters (including main fork and major tributary fork to the west) to private land at T33N R38E (public sections only) (14.6 miles total- 10.4 miles on BLM land, 4.2 miles on private)	Scenic, recreation	All Recreational
Corral Canyon Creek	Trout Creek Mountains Headwaters to private land (3.3 miles total- all on BLM land) **not entirely perennial**	Scenic, recreation	All Recreational
Cottonwood Creek	Granite Range Headwaters to private land at T35N R23E Section 28 (7.6 miles total- 5.8 miles on BLM land, 1.8 miles on private)	Scenic, recreation	All Recreational
Coyote Canyon Creek	Humboldt Range Headwaters (including main fork and 2 major tributary forks to the north and south) to private land (6.2 miles total- all on BLM land)	Scenic, recreation	4.5 miles Scenic 1.7 miles Recreational

Stream Name	Segment Description and Approximate Length	Outstandingly Remarkable Value[2]	Tentative Classification
Crowley Creek	Montana Mountains Headwaters (including main fork and major tributary fork to the south) to private property (13.6 miles total- all on BLM land)	Fish, scenic, recreation	5 miles Wild 8.6 miles Scenic
Kings River	Trout Creek Mountains Oregon border to private land (3.7 miles total- all on BLM land)	Scenic, recreation	2.5 miles Scenic 1.2 miles Recreational
North Fork of the Little Humboldt[1]	From private land in T44N R42E Section 23 to private land in T42N R43E Section 21 (18 miles total- all on BLM land)	Scenic, recreation, geology, prehistory, other	All Wild
Riser Creek	Montana Mountains Headwaters (including the 2 main headwater forks) to Oregon border; public lands only (19.6 miles total- 18.9 miles on BLM land, 0.7 miles on private) **not entirely perennial**	Fish, scenic, recreation	14 miles Scenic 5.6 miles Recreational
Sage Creek	Trout Creek Mountains From private land in T48N R34E Section 35 to Oregon border (3.2 miles total- all on BLM land)	Fish, scenic, recreation	2 miles Scenic 1.2 miles Recreational
Washburn Creek	Montana Mountains Headwaters to confluence with Little Washburn Creek (11.8 miles total- all on BLM land)	Fish, scenic, recreation	5 miles Wild 6.8 miles Scenic

[1] Listed in the Nationwide Rivers Inventory List
[2] Descriptions of the ORVs are given below

Table 3: ORV Classification Criteria for Wild, Scenic and Recreational River Areas from the Wild and Scenic Rivers Act, Section 5(d)(1)

	Wild	Scenic	Recreational
Attributes	Free-flowing. Low dams, diversion works or other minor structures which do not inundate the natural riverbank may not bar consideration as wild. Future construction restricted.	Free-flowing. Low dams, diversion works or other minor structures which do not inundate the natural riverbank may not bar consideration. Future construction restricted.	May have undergone some impoundment or diversion in the past. Water should not have characteristics of an impoundment for any significant distance. Future construction restricted.
	Generally inaccessible by road. One or two inconspicuous roads to the area may be permissible.	Accessible by roads which may occasionally bridge the river area. Short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or railroads paralleling river area may be permitted.	Readily accessible, with likelihood of paralleling roads or railroads along river banks and bridges.
	Shorelines essentially primitive. One or two inconspicuous dwellings and land devoted to production of hay may be permitted. Watershed natural-like in appearance.	Shoreline largely primitive. Small communities limited to short reaches of total area. Agricultural practices which do not adversely affect river area may be permitted.	Shoreline may be developed.
	Water quality meets minimum criteria for primary contact recreation except where such criteria would be exceeded by natural background conditions and esthetics and capable of supporting propagation of aquatic life normally adapted to habitat of the stream.	Water quality should meet minimum criteria for desired types of recreation except where such criteria would be exceeded by natural background conditions and esthetics and capable of supporting propagation of aquatic life normally adapted to habitat of the stream, or capable of and is being restored to that quality.	
Management Objectives	See Manual Section .51		

Table 4: Interim Protection for Candidate Wild and Scenic Rivers

Issue/Action	Eligible	Suitable
Study Boundary	Minimum of 0.25 mile from ordinary high-water mark Boundary may include adjacent areas needed to protect identified values	Minimum of 0.25 mile from ordinary high-water mark Boundary may include adjacent areas needed to protect identified values
Preliminary Classification	Section 2(b): Three classes: Wild, Scenic, and Recreational defined by statute Criteria for classification described in Interagency Guidelines Manage at preliminary classification	Section 2(b): Three classes: Wild, Scenic, and Recreational defined by statute Criteria for classification described in Interagency Guidelines Manage at preliminary classification
Study Report Review Procedures		Notice of study report/Draft EA published in Federal Register Comments/response from federal, state, and local agencies, and the public included in the study report/Final EA transmitted to the President and Congress
Private Land -Administration -Acquisition	Affect private land uses through voluntary partnership with state/local governments and landowners No regulatory authority No ability to acquire interests in land under the Act's authority prior to designation	Affect private land uses through voluntary partnership with state/local governments and landowners No regulatory authority No ability to acquire interests in land under the Act's authority prior to designation Typically an evaluation of the adequacy of the local zoning and land use controls is a component of suitability determination

Issue/Action	Eligible	Suitable
Water Resources Project	River's free-flowing condition protected to the extent of other agency authorities; not protected under the Act	
Land Disposition	Agency discretion to retain lands within river corridor in federal ownership	
Mining and Mineral Leasing	Protect free flow and outstandingly remarkable values	
Actions of Other Agencies	Affect actions of other agencies through voluntary partnerships	
Protect Outstandingly Remarkable Values	No regulatory authority conferred by the Act; agency protects through other authorities Section 11(b) 1: Limited financial or other assistance to encourage participation in the acquisition, protection, and management of river resources.	

OREGON

Denio

McDermitt

95

140

HUMBOLDT COUNTY

Winnemucca

80

447

Gerlach

WASHOE COUNTY

PERSHING COUNTY

Lovelock

80

CHURCHILL COUNTY

LYON COUNTY

Map 1: Streams within Winnemucca Admin Boundary

N W E S

Miles 0 5 10 20 30 40 50

Legend

- Streams
- Towns
- Counties
- BLM Winnemucca Field Office Administrative Boundary
- Black Rock/High Rock NCA RMP Area

Roads

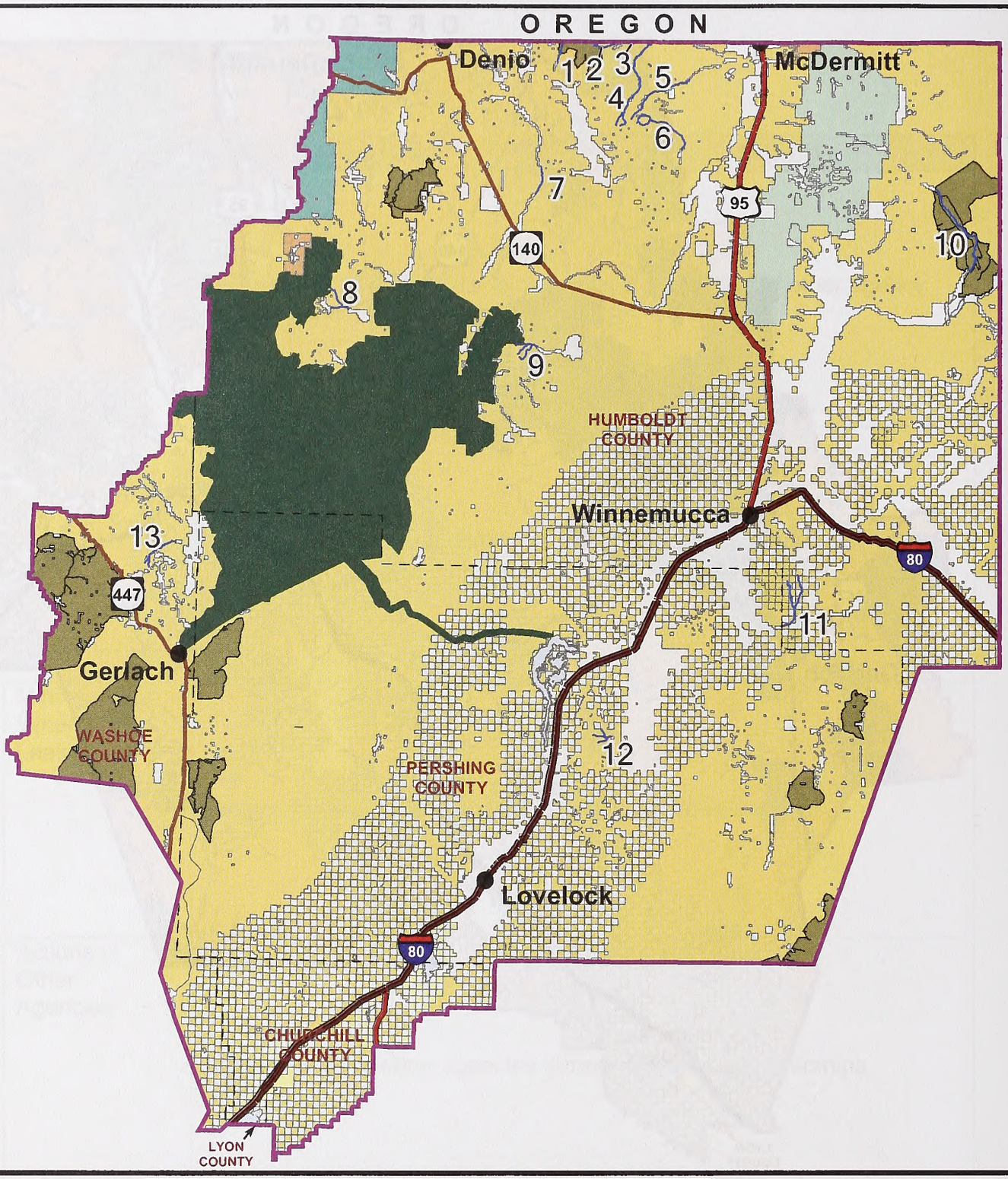
- U.S. Interstate
- State Highway
- U.S. Highway

Land Status

- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Water
- Native American Reservation
- Nevada State
- Private
- United States Forest Service
- BLM Wilderness Study Area

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.

12/2/05



Map 2: Potential Eligible Streams within Winnemucca Admin Boundary

Legend

- Eligible Streams
- 1- Kings River
- 2- Corral Canyon Creek
- 3- Sage Creek
- 4- Riser Creek
- 5- Washburn Creek
- 6- Crowley Creek
- 7- Bilk Creek
- 8- Battle Creek
- 9- Bottle Creek
- 10- N. Fk. Little Humboldt R.
- 11- Clear Creek
- 12- Coyote Canyon Creek
- 13- Cottonwood Creek
- Towns
- Counties
- Winnemucca BLM Field Office Administrative Boundary
- Black Rock/High Rock NCA RMP Area

Roads

- U.S. Interstate
- State Highway
- U.S. Highway

Land Status

- BLM Wilderness Study Area
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Water
- Native American Reservation
- Nevada State
- Private
- United States Forest Service

0 5 10 20 30 40 50 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.

12/2/05

OREGON

Denio

McDermitt

Washburn Creek

Crowley Creek

95

140

N. Fk. Little Humboldt R.

HUMBOLDT COUNTY

Winnemucca

80

447

Gerlach

WASHOE COUNTY

PERSHING COUNTY

Lovelock

80

CHURCHILL COUNTY

LYON COUNTY

Map 3: Eligible Streams for Suitability Analysis within Winnemucca Admin Boundary

N W E S

Legend

- Suitable Streams
- Towns
- Counties
- BLM Winnemucca Field Office Administrative Boundary
- Black Rock/High Rock NCA RMP Area

Roads

- U.S. Interstate
- State Highway
- U.S. Highway

Land Status

- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- Water
- Native American Reservation
- Nevada State
- Private
- United States Forest Service
- BLM Wilderness Study Area

0 5 10 20 30 40 50 Miles

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data.

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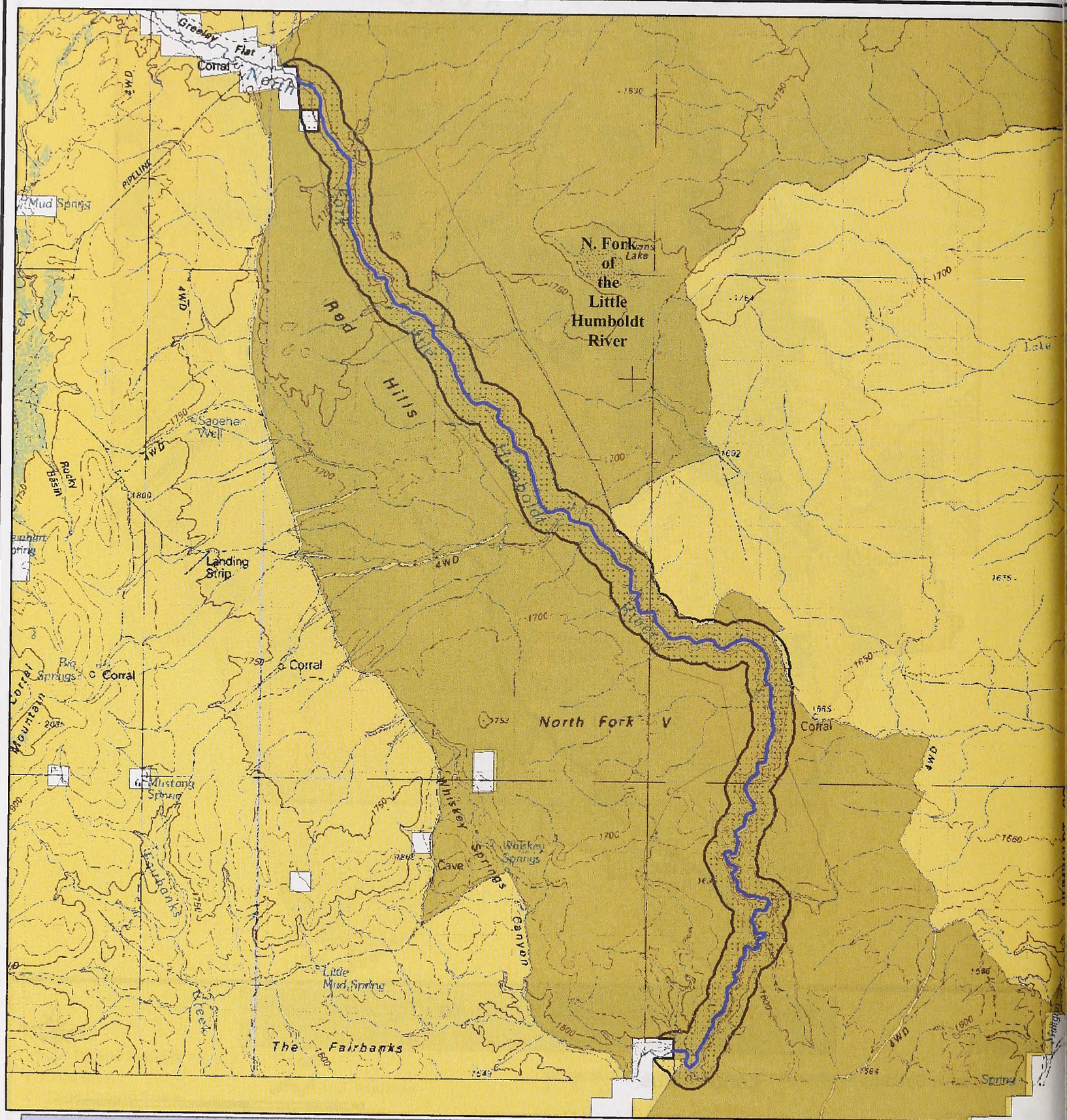


Map 4: N. Fk. Little Humboldt River - Eligible portion for Wild & Scenic River Suitability

Legend

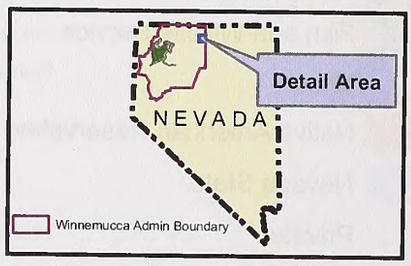
Suitable portion of N. Fk. Little Humboldt River for Wild & Scenic River Designation (Total length- 18 miles- all on BLM land)

Suitable Wild and Scenic River Designation Boundary (approx. 0.5-mile corridor, centered on N. Fk. Little Humboldt River) 5,417 total acres- 99% BLM land, 1% private land

Land Status

- Bureau of Land Management
- Private
- BLM Wilderness Study Area

N W E S



0 0.5 1 2 Miles

1:105,000

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Map 5: Crowley Creek - Eligible portion for Wild & Scenic River Suitability

Legend

Suitable portion of Crowley Creek for Wild & Scenic River Designation (Total length- 13.6 miles- all on BLM land)

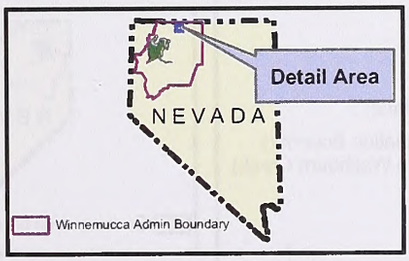
Suitable Wild and Scenic River Designation Boundary (approx. 0.5-mile corridor, centered on Crowley Creek) 4,336 total acres- 100% BLM land

Land Status

Bureau of Land Management

Private

N W E S



0 0.75 1.5 2.25 3 Miles

1:100,000

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Map 6: Washburn Creek - Eligible portion for Wild & Scenic River Suitability

Legend

Suitable portion of Washburn Creek for Wild & Scenic River Designation (Total length- 11.8 miles- all on BLM land)

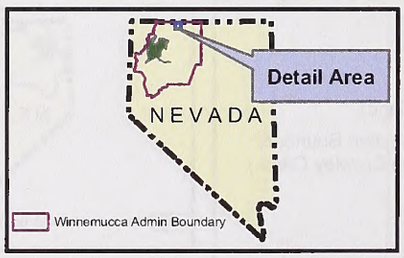
Suitable Wild and Scenic River Designation Boundary (approx. 0.5-mile corridor, centered on Washburn Creek) 3,830 total acres- 100% BLM land

Land Status

Bureau of Land Management

Private

N W E S



0 0.75 1.5 2.25 3 Miles

1:100,000

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APPENDIX H

WINNEMUCCA RMP SOCIOECONOMIC REPORT

US Department of the Interior

Bureau of Land Management
Winnemucca Field Office, Nevada

October 2006

Winnemucca Resource Management Plan

Socioeconomic Report

SOCIOECONOMIC REPORT

WINNEMUCCA FIELD OFFICE RESOURCE MANAGEMENT PLAN

Prepared for

BUREAU OF LAND MANAGEMENT
Winnemucca Field Office

Winnemucca, Nevada

Prepared by

TETRA TECH, INC.

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and

EMPS: ENVIRONMENTAL MANAGEMENT AND PLANNING SOLUTIONS, INC.

4730 Walnut Street, Suite 108
Boulder, CO 80301

October 2006

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LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
AUM	animal unit month
BEA	Bureau of Economic Analysis
Black Rock NCA	Black Rock Desert – High Rock Canyon Emigrant Trails National Conservation Area
BLM	United States Department of the Interior, Bureau of Land Management
DETR	Nevada Department of Employment, Training and Rehabilitation
EPS	Economic Profile System
NDOW	Nevada Department of Wildlife
PILT	payments in lieu of taxes
planning area	Winnemucca Field Office RMP planning area
REIS	Regional Economic Information System
RMP	resource management plan
SCORP	Statewide Comprehensive Outdoor Recreation Plan
UCED	University Center for Economic Development
US	United States
USDA	United States Department of Agriculture
US Forest Service	United States Department of Agriculture, Forest Service
WFO	United States Department of the Interior, Bureau of Land Management, Winnemucca Field Office

SECTION 1
INTRODUCTION

The United States (US) Department of Interior, Bureau of Land Management (BLM), Winnemucca Field Office (WFO), is preparing a resource management plan (RMP) to update or revise for public land within its jurisdiction. The Winnemucca RMP will replace the current land use plans for the WFO, the Paradise-Denio and Sonoma-Gerlach Management Framework Plans (BLM 1982a, 1982b), which were approved in 1982. The purpose of this economic report is to document the economic conditions of the RMP planning area and to provide an overview of how current BLM management activities contribute to the regional economy.

1.1 LOCATION

The planning area in the RMP encompasses all lands, regardless of ownership, within the WFO boundary and includes Churchill, Humboldt, Lyon, Pershing, and Washoe Counties. However, RMP decisions will apply only to the approximately 7.2 million acres (10.2 percent of Nevada's total acreage) of public land administered by the BLM. This acreage excludes the Black Rock Desert – High Rock Canyon Emigrant Trails National Conservation Area (Black Rock NCA), which is managed by the WFO BLM under a separate RMP that received approval in 2003. Also excluded are private, state, Indian reservations, and public lands not administered by the BLM.

The planning area is in the northwestern part of Nevada. The area is bordered on the west by Washoe County and portions of the Pyramid Lake Indian Reservation, on the north by the Oregon state line, on the east by Elko County and portions of Lander County, and on the south by Churchill County. The planning area lies entirely within the territory of the Northern Paiute people and includes several Indian reservation lands, including the Lovelock Paiute Tribe (Lovelock reservation), Fort McDermitt, Battle Mountain, Summit Lake, and Winnemucca Colony Reservations.

Figure 1-1 depicts the Winnemucca RMP planning area and Table 1-1 provides land ownership and acreage with the WFO planning area. WFO-managed land is throughout Pershing County, most of Humboldt County, the northern portion of Churchill County, a small eastern portion of Washoe County, and a small northern portion of Lyon County. Much of the BLM-administered land consists of scattered tracts intermingled with State of Nevada, private, tribal, and US Department of Agriculture, Forest Service (US Forest Service) lands.

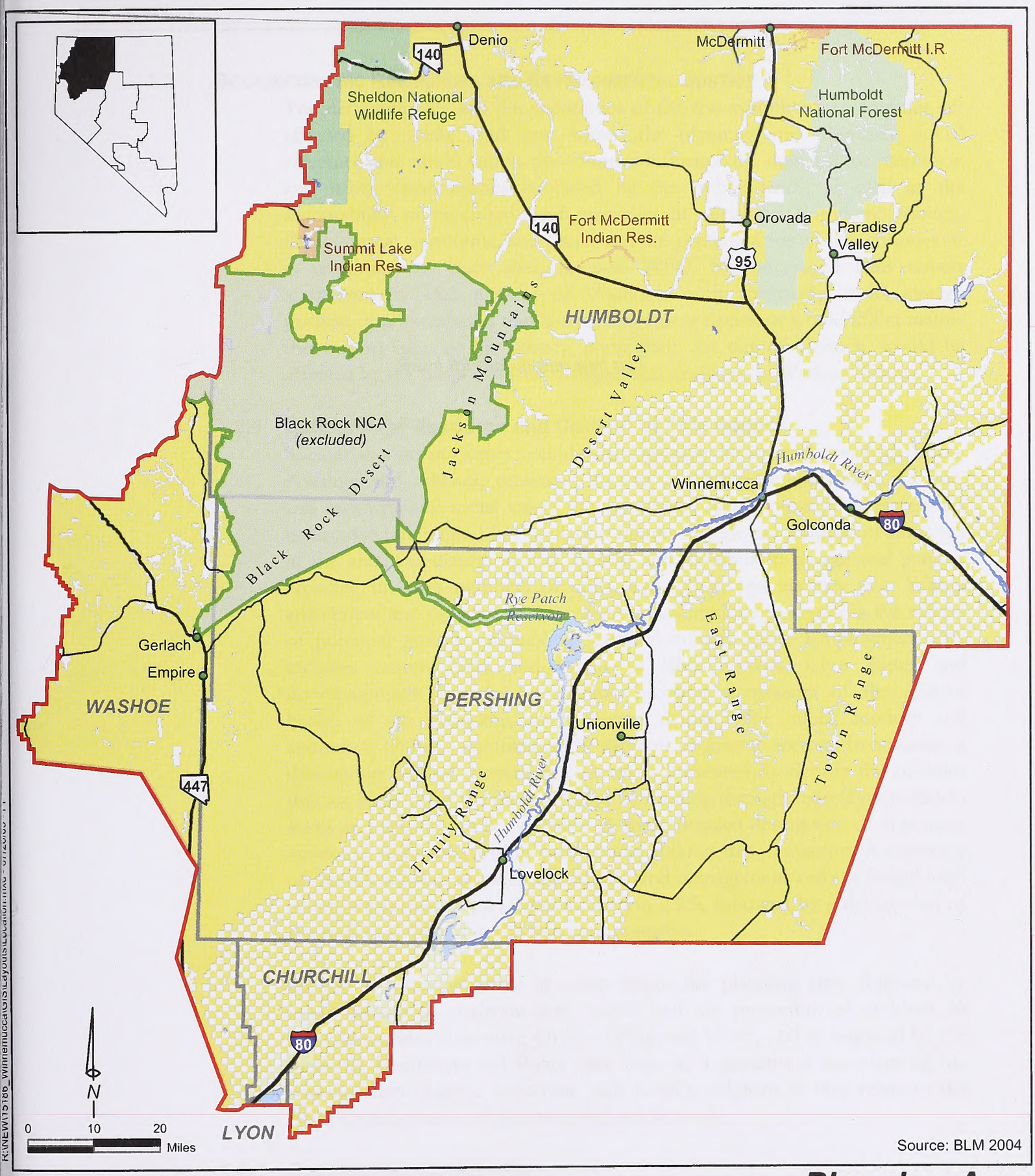
Table 1-1
WFO RMP Planning Area
Land Ownership and Acreage

Land Ownership	Acreage
BLM	*8,220,708
State of Nevada	70
Private	2,365,236
Forest Service	275,285
Fish & Wildlife Service	106,151
Bureau of Reclamation	66,561
Bureau of Indian Affairs	22,298
Department of Defense	18

Source: BLM 2005a

*Acreage includes WFO BLM-administered Black Rock NCA;
*WFO-BLM RMP acreage is 7,205,564.

Most of the WFO planning area is managed by the BLM. Although the WFO planning area boundary covers five counties, there are no WFO BLM-administered lands within Lyon County. About 2,800 acres of BLM-administered lands in Lyon County underwent recent land tenure adjustments, resulting in a change of ownership. A detailed description of ownership acreages by county is provided in Section 2.2.4.



Source: BLM 2004

Legend

- Field Office Boundary
- County Boundary
- Interstate
- Major Highway
- Other Road
- River
- Water
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service
- US Forest Service
- Nevada State
- Private

No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

Planning Area Socioeconomic Report

Northwestern Nevada

Figure 1-1

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1.2 Socioeconomic Resources and Environmental Justice

The demographics and the economies of the five planning area counties are affected by public land uses within the planning area. Similarly, social structure and values within the counties influence the demand for recreation and other opportunities provided by the public lands, as well as the acceptability of proposed land management decisions. For these reasons, demographic, economic, and social data are presented for all five counties. It is important to note that, because WFO BLM-managed land covers approximately 19.2 percent of Washoe County primarily in its eastern portion, it is anticipated that land management decisions would affect mainly the eastern edge of the county, particularly the city of Gerlach, would be affected by the proposed land management decisions in Washoe County.

1.2.1 Definition of Resource and Content of This Report

Socioeconomic resources include demographic information on population, housing, and schools; economic figures concerning employment, income, and earnings; and social values. Each of these socioeconomic characteristics is discussed in Section 2. Population figures include the number of residents in the area, population growth trends, and distribution by age and gender. Housing includes numbers of units, ownership, and vacancy rate. School enrollment and capacity are important considerations in assessing the effects of potential growth on publicly supplied infrastructure. Employment data includes current data and trends in labor sectors, labor force, and unemployment. Income information provides a measure of the relative health of the economy, the potential demand for public services and assistance, and the significance of different economic sectors. In addition, a description of land ownership patterns is presented to identify the counties that are likely to be the most affected by funding through federal payments to states and counties in lieu of taxes. A more detailed description of important economic influences within each county follows this discussion. A summary of the relationship between the BLM's land management and the linked local economic sectors is presented in Section 2.2.5, followed by a description of the social values within the five-county region.

Section 3 addresses tribal interests within the planning area, followed by issues related to environmental justice and the protection of children, in accordance with Executive Orders 12898 and 13045, and as required by the National Environmental Policy Act. Section 4 presents a summary of the regional demographic, economic, and social conditions as they relate to the BLM's management of planning area public lands.

1.2.2 Socioeconomic Indicators

Indicators are factors that measure the effects of different resource management alternatives in the RMP and whether or not there is a change (and how big the change is) from current conditions. Socioeconomic

indicators will be analyzed in the Winnemucca RMP and environmental impact statement.

SECTION 2
SOCIOECONOMIC CONDITIONS

2.1 DEMOGRAPHIC CHARACTERISTICS

The project area is predominantly rural in character. Project area communities include regional cities, rural towns, and outlying rural areas. Winnemucca and Lovelock are regional cities that provide services, shopping, and diverse amenities for leisure and recreation. The region's rural towns, such as Denio, Empire, Gerlach, Goldconda, Imlay, and McDermit have smaller populations. The presence of services, hospitals, affordable housing, schools, shopping, and recreation are directly related to where the counties' populations reside. The employment base for most of these communities are mining, agriculture, industrial, gaming and tourism.

2.1.1 Population

Nevada's population has risen 66.3 percent in the last decade, while the population of the planning area has grown an average of 35.8 percent. Between 1995 and 2000, approximately 466,123 people moved into Nevada, while another 232,189 people moved out of Nevada, resulting in a net migration of 233,934 newcomers. The largest inflow and outflow was from and to California (US Census Bureau 2005).

Table 2-1 displays population trends from 1990 to 2000 and percent change over the ten-year period in the five counties analyzed. In 2000, the three largest county populations in the planning area were in Washoe (339,486), Lyon (34,501), and Churchill (23,982) Counties, which represent increases of 33.3 percent, 72.5 percent, and 33.7 percent, respectively, from their 1990 populations. Lyon County was the only county that exceeded the state average of 66.3 percent over the ten-year period, representing the largest percentage change in population. The lowest occurred in Humboldt County, with a 33.4 percent increase, due to high rates of out-migration (US Census Bureau 2005).

Table 2-1
County Population Totals and Median Ages (1990-2000)

County	1990	2000	1990-2000 Change	1990-2000 Percent Change	Median Age (2000)
Churchill	17,938	23,982	6,044	33.7%	34.7
Humboldt	12,844	16,106	3,262	33.7%	33.4
Lyon	20,001	34,501	14,500	72.5%	38.2
Pershing	4,336	6,693	2,357	54.4%	34.4
Washoe	254,667	339,486	84,819	33.3%	35.6
Planning Area	309,786	420,768	110,982	35.8%	35.3
Nevada	1,201,833	1,998,257	796,424	66.3%	35.0

Source: US Census Bureau 2005
Note: Decade years represent April 1 census data, not mid-year estimates

From 1990 to 2000, the population of all five counties had grown an average of approximately 35.8 percent to 420,768 people. Lyon, Washoe, and Churchill Counties had the highest median ages (38.2, 35.6, and 34.7 respectively) compared to the other counties. The median age of the population in all five counties in 2000 was 35.3. This was just slightly greater than Nevada's state average median age of 35.0.

Churchill County's population is influenced by its proximity to employment centers outside the county, providing residences for workers with jobs primarily in Carson City, Fernley (Lyon County), and the Reno–Sparks area (Washoe County). Population fluctuations in Humboldt and Pershing Counties are most likely due to trends in the mining and farming industries. Mining replaced farming as the dominant economic sector in Humboldt County's economy, affecting employment, personal income, and other regional economic sectors. Most of Lyon County's growth is occurring at manufacturing sites in Fernley and along the lower Carson River where present day "bedroom" communities (for Carson City) have taken the place of nineteenth century mining camps and milling sites. While a significant portion of the county's population lives within this Dayton area, many of these persons hold jobs and are counted as being employed in Carson City. Population trends in Washoe County are heavily influenced by the Reno-Sparks area gaming industry, the most dominant industry in Washoe County in terms of jobs, payrolls, personal incomes, and its direct and indirect effects on other sectors of the county's economy (Nevada Division of Water Resources, undated).

Growth is projected to continue increasing in the planning area, as shown in Table 2-2, at approximately 40.6 percent, slower than Nevada's anticipated growth at 50.3 percent. The largest growth is expected in Lyon County

Table 2-2
County Population Projections

County	2000	2005	2010	2015	2020	2000-2020 Population Change	2000-2020 Percent Change
Churchill	23,982	26,876	29,489	32,053	34,565	10,583	44.1%
Humboldt	16,106	15,943	15,212	14,286	14,025	-2,081	-12.9%
Lyon	34,501	45,317	54,385	62,547	69,469	34,968	101.4%
Pershing	6,693	7,010	7,040	7,012	7,063	370	5.5%
Washoe	339,486	385,887	415,402	442,878	466,546	127,060	37.4%
Planning Area	420,768	481,033	521,528	558,776	591,668	170,900	40.60%
Nevada	1,998,257	2,448,201	2,806,940	3,125,677	3,412,147	1,005,630	50.3%

Source: Nevada State Demographer's Office 2004

(101.4 percent), followed by Churchill County (44.1 percent), Washoe County (37.4 percent), and Pershing County (5.5 percent). Humboldt County is projected to experience a population loss of 12.9 percent (Nevada State Demographer's Office 2004).

The anticipated population increases may occur for a variety of reasons. Areas are experiencing industrial expansion, including growth in hard rock mining (Nevada Concrete Company), power plants (Granite Fox) and the development of renewable energy such as geothermal and wind projects. Other influencing factors include affordable housing, proximity to metropolitan areas such as the Reno/Sparks area, and the ease of access to an airport, an interstate highway, and/or the railroad.

Historic trends in the agricultural and mining sections are likely the cause of Humboldt County's past population decreases, however, increase retirees, mining activity (including mine expansion and new mines), geothermal development and industrial diversification such as a new trailer manufacturing plant combined with affordable housing could result in populations increases.

All five counties' largest populations were under 20 years of age, with Churchill and Humboldt Counties representing the largest percentages (31 and 34 percent, respectively. The baby boomers accounted for second largest populations in all five counties, with ages ranging from 40 to 54. The smallest population for all five counties was children under the age of five years old, with Pershing and Lyon Counties having the smallest percentage of population under five (6.5 percent each) and Churchill and Humboldt Counties having the largest population of children under five (8.0 percent each). The percent of population over 65 ranged from approximately 7.5 to 13.7 percent, with Lyon and Churchill Counties having the largest population

over 65 (13.7 and 11.9 percent) and Humboldt County having the lowest population over 65 (7.5 percent) (US Census Bureau 2005).

The average ratio of men to women in the planning area counties was similar to the state's percentage of 50.9 to 49.1, as the percentages of male to female ranged from 52.4 to 47.6 in Humboldt County to 50.2 to 49.8 in Churchill County. Pershing County was an exception with the ratio of men to women measurably higher (61.4 to 38.6 percent) than the average, due to the higher percentage of men in the prison in the county (US Census Bureau 2005).

2.1.2 Housing

Table 2-3 shows housing occupancy type and vacancy for the five planning area counties in 1990 and 2000, when all counties experienced an increase of over 25 percent in total number of housing units. Lyon County had the largest increase (63.7 percent) in the number of housing units, and Pershing County had the lowest increase (25.2 percent). The growth in the number of housing units in all counties occurred as a result of population growth. Growth that occurs in urban areas surrounded by public lands may increase pressure on the BLM to dispose of public lands that are otherwise difficult to manage for multiple uses (BLM 2000a). All counties in the planning area, with the exception of Lyon, experienced a lower percentage increase in the number of housing units than did the state, which experienced an increase of 59.5 percent.

Table 2-3
County Housing Estimates (1990-2000)

County	1990			2000			Housing Units Percent Change
	Housing Units	Vacancy Rate	Persons per Household	Housing Units	Vacancy Rate	Persons per Household	
Churchill	7,290	1.7%	2.62	9,732	2.6%	2.64	33.5%
Humboldt	5,044	1.7%	2.76	6,954	3.9%	2.77	37.9%
Lyon	8,722	2.8%	2.58	14,279	3.1%	2.61	63.7%
Pershing	1,908	1.9%	2.65	2,389	3.5%	2.69	25.2%
Washoe	112,193	1.8%	2.43	143,908	2.0%	2.53	28.3%
Planning Area	135,157	1.98%	2.61	35,452	3.0%	2.65	37.7%
Nevada	518,858	2.3%	2.52	827,457	2.3%	2.64	59.5%

Source: Nevada State Demographer's Office 2004

In 2000, Humboldt and Pershing Counties had the highest vacancy rate (3.9 and 3.5 percent), and Washoe County had the lowest vacancy rate (2.0 percent). In general, the average vacancy rate for the planning area in 2000 was 3.0 percent, with vacancy rates increasing in all counties between 1990 and 2000, and vacancy rates remaining the same for the state at 2.3 percent.

In 2000, the average number of persons per household in the planning area was 2.65, which was just slightly higher than that of the state average of 2.64. The average household size in each of the five planning area counties ranged from 2.53 persons in Washoe County to 2.77 persons in Humboldt County (US Census Bureau 2005). Despite the growth in the number of housing units in all of the planning area counties from 1990 to 2000, the average number of persons per household increased in all counties, as well as statewide.

Table 2-4 shows housing affordability for the five planning area counties. A rating of 100 or higher under the Housing Affordability Index indicates that the median family can afford the median house. Housing for all counties within the planning area has become more affordable in the last decade.

Table 2-4
Housing Affordability (1990-2000)

County	1990			2000		
	Housing Unit: Median Value	% of Median Income necessary to buy house	Housing Affordability Index	Housing Unit: Median Value	% of Median Income necessary to buy house	Housing Affordability Index
Churchill	$110,145	21%	117	$117,100	18%	141
Humboldt	$98,814	17%	146	$117,400	16%	157
Lyon	$99,736	22%	113	$119,200	19%	133
Pershing	$86,298	18%	142	$82,200	13%	199
Washoe	$146,113	24%	102	$161,600	21%	119
Planning Area	$108,221	20.4%	124	$119,500	17.4%	149.8

Source: US Census Bureau 2005

The median value of housing units for all but Pershing County increased from 1990 to 2000. The largest increase occurred in Lyon County, which increased almost $20,000 over a ten year period. The second largest increase was Humboldt County, followed by Washoe and Churchill Counties. In Pershing County, the median value of housing units decreased from $86,298 in 1990 to $82,200 in 2000 ($37,300 lower than the planning area average), yet the housing affordability index increased the greatest (from 142 to 199).

2.1.3 Education

Five school districts serve the five planning area counties. The 147 schools within these districts had a total enrollment of 76,641 students during the 2001-2002 school year. Of the five counties, Washoe, Lyon, and Churchill Counties had the highest kindergarten through 12th grade student enrollment,

with 3,244, 378, and 236 students, respectively. Pershing and Humboldt Counties had the smallest kindergarten through 12th grade student enrollment of 66 and 208 students. Washoe County School District, the largest school district in the planning area, includes sixty-four elementary schools (grades kindergarten/prefirst through 6), twelve middle schools (grades 7 and 8), two junior-senior high schools, fourteen high schools (grades 9 through 12), and ten alternative/other schools (for example, charter schools [kindergarten through 6th grade], detention centers, and alternative education schools) (National Center for Education Statistics 2005).

Of the five counties, Washoe County had the largest population (almost 24 percent) 25 years and older with a college degree, which is about ten percent higher than the US median (approximately 15 percent). Churchill and Humboldt Counties were close to the US median at 17 and 14 percent. Lyon and Pershing Counties had the lowest percentage in the planning area (11 and 9 percent) and fell below the US median (US Census 2000).

2.2 Economic Characteristics

2.2.1 Employment and Economy

Table 2-5 shows employment data for all planning area counties in 2000. The three largest counties, Washoe, Lyon, and Churchill, had unemployment rates ranging from 5.0 to 6.9 percent, while, on average, the planning area counties had an average unemployment rate of approximately 7.3 percent, larger than the state's 6.2 percent average. Humboldt and Pershing Counties had the highest unemployment rates in the planning area in 2000, 8.3 percent and 7.6 percent.

Table 2-5
County Employment Statistics (2000)

Location	Employed Persons	Unemployed Persons	Unemployment Rate
Churchill County	10,288	641	5.9%
Humboldt County	7,017	636	8.3%
Lyon County	15,399	1,137	6.9%
Pershing County	2,268	187	7.6%
Washoe County	171,723	8,956	5.0%
Planning Area	209,223	11,770	7.3%
State of Nevada	933,280	61,920	6.2%

Source: US Census Bureau 2005

As shown in Table 2-6, between 1990 and 2000, employment sector growth for the entire planning area increased in services (41.6 percent), government (39.1 percent), construction (33.4 percent), transportation/utility/information (28.4 percent), manufacturing (27.9 percent), and finance/insurance/real estate (20.7 percent).

Table 2-6
County Employment by Industry Sector and Average Sector Growth

Sector (Total Planning Area Percent Change)	Churchill County	Humboldt County	Lyon County	Pershing County	Washoe County	Total Planning Area
Agriculture/Forestry/Fishing/Mining (-33.7%)						
1990	728 (10.1%)	1,850 (28.9%)	895 (10.4%)	675 (34.7%)	2,993 (2.1%)	8,540 (5.1%)
2000	632 (6.1%)	1,726 (24.6%)	777 (5.0%)	517 (22.8%)	1,292 (0.8%)	5,665 (2.7%)
Construction (33.4%)						
1990	810 (11.3%)	620 (9.7%)	898 (10.5%)	132 (6.8%)	9,519 (6.8%)	12,195 (7.3%)
2000	958 (9.3%)	559 (8.0%)	1,464 (9.5%)	95 (4.2%)	13,008 (7.6%)	16,270 (7.8%)
Manufacturing (27.9%)						
1990	492 (6.8%)	275 (4.3%)	1,271 (14.8%)	91 (4.7%)	10,438 (7.4%)	12,656 (7.5%)
2000	854 (8.3%)	252 (3.6%)	1,892 (12.3%)	177 (7.8%)	12,903 (7.5%)	16,184 (7.7%)
Transportation/Utility/Information (28.4%)						
1990	517 (7.2%)	384 (6.0%)	466 (5.4%)	116 (6.0%)	11,995 (8.5%)	13,620 (8.1%)
2000	877 (8.5%)	542 (7.7%)	1,196 (7.8%)	182 (8.0%)	14,528 (8.5%)	17,493 (8.4%)
Trade (-2.6%)						
1990	1,341 (18.7%)	1,193 (18.6%)	1,530 (17.8%)	359 (18.4%)	29,364 (20.9%)	34,175 (20.4%)
2000	1,559 (15.2%)	963 (13.7%)	2,615 (17.0%)	218 (9.6%)	27,693 (16.1%)	33,282 (15.9%)
Finance/Insurance/Real Estate (20.7%)						
1990	374 (5.2%)	162 (2.5%)	274 (3.2%)	32 (1.6%)	8,993 (6.4%)	9,870 (5.9%)
2000	343 (3.3%)	103 (1.5%)	790 (5.1%)	46 (2.0%)	10,584 (6.2%)	11,909 (5.7%)

Table 2-6
County Employment by Industry Sector and Average Sector Growth *(continued)*

Sector (Total Planning Area Percent Change)	Churchill County	Humboldt County	Lyon County	Pershing County	Washoe County	Total Planning Area
Services (41.6%)						
1990	2,244 (31.2%)	1,501 (23.5%)	2,716 (31.6%)	411 (21.1%)	61,645 (43.8%)	69,000 (41.1%)
2000	3,989 (38.8%)	2,447 (34.9%)	5,470 (35.5%)	707 (31.2%)	84,268 (49.1%)	97,699 (46.7%)
Government (39.1%)						
1990	678 (9.4%)	415 (6.5%)	533 (6.2%)	131 (6.7%)	5,787 (4.1%)	7,710 (4.6%)
2000	1,076 (10.5%)	425 (6.1%)	1,195 (7.8%)	326 (14.4%)	7,447 (4.3%)	10,721 (5.1%)

Source: US Census Bureau 2005; Bureau of Economic Analysis (BEA) 2005

The services sector was the only sector that experienced growth in all five counties, with the greatest increase occurring in Humboldt County (63.0 percent). Between 1990 and 2000, services in Humboldt County increased from 23.5 percent of the job sector to 34.9 percent. Pershing County had the second highest increase of 36.7 percent (increasing from 21.1 percent in 1990 to 31.2 percent in 2000).

Over the ten-year period, employment declined in the trade and agriculture/forestry/fishing/and mining sectors, at -2.6 percent and -33.7 percent. This decline may be attributed to changes in the mineral development and agriculture production throughout Nevada. Gold prices reached their lowest level in mid-1999 at $252 per ounce. In real inflation-adjusted terms, this was the lowest level since 1972 when the US went off the gold standard (Nevada Mining Association 2003). These lower gold prices in the late 1990s lower gold prices caused many Nevada mines to scale back exploration and to scale back or temporarily close some operations.

2.2.2 Income and Earnings

As shown in Table 2-7, 2000 per capita personal incomes for the planning area counties, with the exception of Washoe County, remained below $26,000. Income in the planning area on average climbed to $25,142, which resulted in an average increase of 39.1 percent since 1990, but remained below the state average of $30,437 in 2000. In 2000, Washoe County had the highest per capita income ($36,100), and Pershing County had the lowest ($16,892) (BEA 2005).

Table 2-7
Per Capita Incomes

Location	1990	2000	Percent Change
Churchill County	$15,591	$25,053	60.7%
Humboldt County	$18,950	$24,700	30.3%
Lyon County	$16,641	$22,965	38.0%
Pershing County	$16,094	$16,892	5.0%
Washoe County	$23,067	$36,100	56.5%
Average Total	$18,069	$25,142	39.1%
State of Nevada	$20,346	$30,437	49.6%

Note: Figures calculated without taking into account the inflation rate.
Source: BEA 2005

Churchill County experienced the most significant growth in per capita income, a 60.7 percent increase, from $15,591 in 1990 to $25,053 in 2000. Per capita income in Washoe, Lyon, and Humboldt Counties increased by 30 percent or more (56.5, 38.0, and 30.3, respectively), while per capita income in Pershing County slightly only increased by 5.0 percent. In 2000, the

average per capita income growth level in the planning area counties (39.1 percent) was well below the state's level (49.6 percent).

Table 2-8 displays farm earnings for the planning area counties between 1990 and 2000. Over this ten-year period, farm earnings decreased in Churchill, Pershing, and Humboldt Counties, falling 16.0, 13.7, and 10.4 percent, respectively. Washoe County expereinced the largest increase in farm earnings of all the counties, 620.2 percent. Lyon County showed an increase of 22.2 percent. Planning area counties showed an average increase in farm earnings of 11.5 percent between 1990 and 2000, a somewhat slower rate than the state level, which increased 20.9 percent during the same period (BEA 2005).

Table 2-8
Farm Earnings 1990-2000 (in thousands of dollars)

Location	1990	2000	Percent Change
Churchill County	$11,066	$9,295	-16.0%
Humboldt County	$18,266	$16,366	-10.4%
Lyon County	$12,936	$15,813	22.2%
Pershing County	$5,930	$5,119	-13.7%
Washoe County	$1,173	$8,448	620.2%
Average Total	$9,874	$11,008	11.5%
State of Nevada	$80,533	$97,399	20.9%

Note: All state and local area dollar estimates are in current dollars (not adjusted for inflation).

Farm earnings: the net income of sole proprietors, partners, and hired laborers arising directly from the current production of agricultural commodities, livestock or crops. It includes net farm proprietors' income and the wages and salaries, pay-in-kind and other labor income of hired farm laborers, but specifically excludes the income of non-family farm corporations.

Source: BEA 2005.

Overall, with the exception of Washoe and Lyon Counties, which occupy only small portions of the planning area, this trend indicates a decrease in farm and agriculture-related earnings within the last decade, which has led to the growth of employment services and amenity-based industries within the planning area, as further discussed in Section 2.2.6, Community Economic Profile Workshop and Social Characteristics.

Table 2-9 displays private earnings by industry in 2003. To avoid disclosing confidential information, some numbers have been suppressed, however, the estimates for these items are included in the totals.

Table 2-9
Private Earnings 2003 (in thousands of dollars)

Private Sector	Churchill County	Humboldt County	Lyon County	Pershing County	Washoe County
Private Earnings	**293,732**	**256,302**	**364,590**	**51,853**	**8,881,111**
Forestry, fishing, related activities	4,105 (1.4%)	4,489 (1.8%)	2,954 (0.8%)	(D)	11,438 (0.1%)
Mining	(D)	108,818 (42.5%)	9,949 (2.7%)	(D)	44,693 (0.5%)
Utilities	10,087 (3.4%)	15,427 (6.0%)	6,027 (1.7%)	(D)	129,622 (1.5%)
Construction	26,136 (8.9%)	14,755 (5.8%)	46,835 (12.8%)	(D)	103,5043 (11.7%)
Manufacturing	26,721 (9.1%)	14,031 (5.5%)	100,996 (27.7%)	(D)	884,197 (10.0%)
Wholesale Trade	11,612 (4.0%)	7,698 (3.0%)	19,682 (5.4%)	(D)	602,745 (6.8%)
Retail Trade	35,115 (12.0%)	26,657 (10.4%)	52,978 (14.5%)	4,394 (8.5%)	789,345 (8.9%)
Transportation and warehousing	18,145 (6.2%)	13,792 (5.4%)	8,658 (2.4%)	1,538 (3.0%)	465,483 (5.2%)
Information	6,250 (2.1%)	2,753 (1.1%)	1,721 (0.5%)	316 (0.6%)	203,504 (2.3%)
Finance and Insurance	19,978 (6.8%)	3,808 (1.5%)	6,195 (1.7%)	465 (0.9%)	756,021 (8.5%)
Real estate and rental and leasing	8,976 (3.1%)	1,661 (0.6%)	4,112 (1.1%)	203 (0.4%)	194,558 (2.2%)
Professional and technical services	16,069 (5.5%)	(D)	(D)	(D)	810,650 (9.1%)
Management of companies and enterprises	217 (0.1%)	(D)	(D)	(D)	240,508 (2.7%)
Administrative and waste services	44,291 (15.1%)	4,279 (1.7%)	35,353 (9.7%)	(L)	324,625 (3.7%)
Educational services	(D)	(D)	(D)	0	43,790 (0.5%)
Health care and social assistance	(D)	(D)	(D)	972 (1.9%)	1,023,825 (11.5%)
Arts, entertainment, and recreation	11,437 (3.9%)	2,144 (0.8%)	12,705 (3.5%)	(D)	203,845 (2.3%)
Accommodation and food services	9,010 (3.1%)	16,918 (6.6%)	7,288 (2.0%)	(D)	900,439 (10.1%)
Other services, except public administration	10,625 (3.6%)	7,123 (2.8%)	12,833 (3.5%)	997 (1.9%)	216,780 (2.4%)
Government and government enterprises	**168,337**	**66,031**	**79,992**	**32,714**	**1,484,161**
Federal, civilian	32,855 (19.5%)	11,756 (17.8%)	3,880 (4.9%)	612 (1.9%)	276,163 (18.6%)
Military	68,257 (40.5%)	945 (1.4%)	2,578 (3.2%)	215 (0.7%)	25,894 (1.7%)
State and local	67,225 (39.9%)	53,330 (80.8%)	73,534 (91.9%)	29,008 (88.7%)	1,182,104 (79.6%)

Source: BEA 2005

In addition to private earnings, non-labor income also played an important role in each county. In 2002, non-labor income accounted for more than 30 percent of total income in all five planning area counties. The largest percentages of non-labor income occurred in Washoe and Lyon Counties (36.8 and 36.1 percent), and Humboldt County's proportion was the smallest (30.7 percent).

2.2.3 Land Ownership

Of the 70,275,800 acres of land in Nevada, the federal government owns 61,548,000 acres, or 87.6 percent, ranking Nevada first of the fifty states for percentage of lands in federal ownership (Statewide Comprehensive Outdoor Recreation Plan [SCORP] 2003). Within the WFO planning area, approximately 78.4 percent of land is held in federal ownership, which includes BLM, US Forest Service, Bureau of Reclamation, and US Fish and Wildlife Service lands. About 75 percent of the planning area land is managed by the BLM WFO. Portions of the Humboldt-Toiyabe National Forest lie within the northeastern part of Humboldt County, and portions of the Charles Sheldon National Wildlife Refuge lie in the eastern part of the county. The Black Rock NCA lies within the portions of Humboldt, Pershing and Washoe Counties. Humboldt County is likely to be the most directly affected by funding through federal payments to states and counties in lieu of taxes because this county has the highest percentage of federally owned and managed lands, followed by Washoe and Pershing Counties. As presented in Table 2-10, of the five counties, the BLM WFO administers the largest portion of BLM land in Humboldt and Pershing Counties and the smallest portion of land in Washoe County. The BLM does not manage any lands in Lyon County. In general, the US Forest Service and the BLM manage much of the federal public lands in the planning area. As such, the percentage of US Forest Service land is also included in Table 2-10 to provide context and scale.

Table 2-10
BLM and US Forest Service Land Management in Planning Area Counties

County	Total County Acres	Percent Total Federal Ownership	Total Acres Managed by the BLM WFO	Percent Managed by the BLM WFO	Total Acres Managed by the US Forest Service	Percent Managed by the US Forest Service
Churchill	3,170,167	79.6	188,603	5.9	0	0
Humboldt	6,169,180	81.5	4,353,340	70.6	275,285	4.5
Lyon	1,272,804	67.2	0	0	0	0
Pershing	3,861,416	75.7	2,904,342	75.2	0	0
Washoe	4,041,732	72.9	774,423	19.2	0	0
Total	18,515,299	45.9	*8,220,708	44.4	275,285	1.5

Source: BLM 2005a
*Acreage includes WFO BLM-administered Black Rock NCA

2.2.4 County Overviews

The following section provides a brief overview of the five counties whose borders cross the WFO planning area. The analysis discusses the entire county, regardless of ownership or planning area boundary.

The proposed Granite Fox power plant would be important to the economy to several of the counties listed below. However, this project is currently on hold and may not be developed.

Anticipated resonating effects from this project to local economies include an increasing demand for services and materials. Workers are expected to purchase items such as food, clothing, and gasoline locally during both the construction and operational phases. Restaurants and movie theatres would also see an increase in use. The demand for construction materials, such as concrete aggregates, fill material, and lumber are expected to increase, supporting the employees of the local construction supply industry. Of the new companies that have moved to Nevada over the past several years, the Granite Fox power plant project is expected to rank among the top in terms of overall economic impact (Coleman 2005).

Churchill County

Churchill County is the southernmost county in the planning area, bordered by portions of Washoe and Lyon Counties on the west, Pershing County on the north, Lander County on the east, and portions of Nye and Mineral Counties on the south. The northwestern portion of this county is within the planning area. The only urban area in Churchill County is the city of Fallon, and there is property proposed for development between Fernley and Fallon (near Hazen) to support the Granite Fox power plant project (Coleman 2005). The Fallon Paiute-Shoshone Tribe and the US Naval Air Station Fallon are also within the county, as are wildlife refuge areas and portions of the Lahontan State Recreation Area (popular for camping, fishing and boating). Churchill County ranked eighth among the 17 Nevada counties in population in 2000 and tenth in area (Harris, Riggs, and Zimmerman 2001; BEA 2005).

A county with a diverse economy, or one that is not heavily specialized, is able to withstand employment fluctuations in individual industries. For this analysis, the specialization index is based on the employment share for each industry type as a portion of total employment. Using this methodology, Churchill County is classified as somewhat diverse economically (with an index of employment specialization of 735 versus a median of 961 for all US counties) (Census 2000). Naval Air Station Fallon is the main source of income for residents of Churchill County. Military personnel and naval base support account for more than 3,000 jobs in the local economy. Outside of the naval base, the major employers are the Churchill County School District, the Banner Churchill Community Hospital, Churchill County, SMI Joist, and

Wal-Mart, each of which maintains over 200 employees. Compared to the nation, the county supports a larger than average mining and agricultural community. Mining operations focus on gold and silver, and farms produce livestock, alfalfa hay, other hay, wheat, and barley. Churchill County is also the leading dairy producer in the state (Churchill Economic Development Authority 2005).

In 2000, the largest portion of Churchill County's population was under the age of 20 (31 percent), and the male/female ratio was even (Census 1990 and 2000). Per capita income for the county ($25,053) was lower than the state average ($30,437) and the national average ($30,906) (BEA 2005). Total full-time and part-time employment in Churchill County increased from 9,621 jobs in 1992 to 15,858 jobs in 2002, resulting in a net increase of 64.8 percent over the ten-year period (BEA Regional Economic Information System [REIS] 2002). In 2002, the largest three employment sectors in Churchill County were government, service industries, and trade, transportation, and utilities services. The smallest employment sectors in 2002 were mining and finance/insurance/real estate (University of Reno 2005). Labor income accounted for 69 percent of personal income in 2002. Non-labor income, which consists of dividends, interest, rent, and transfer payments, such as Medicare and retirement benefits, accounted for 31 percent of the total personal income in 2002 (BEA REIS 2002).

Churchill County encompasses 3,170,167 acres, approximately 4.5 percent of the state. The Fallon Paiute-Shoshone Reservation, Grimes Point, and the Hidden Cave, a Native American site, are also in the county. Federally owned land makes up 79.6 percent of the county, tribal land makes up 1.7 percent, state land makes up 3.2 percent, and local government and private land makes up 15.5 percent. The BLM WFO manages a total of 188,603 acres (5.9 percent) of Churchill County (BLM 2005a).

Humboldt County

Humboldt County is in the northern portion of the planning area, bordered by Elko County on the east, Lander County on the southeast, Pershing County on the south, Washoe County on the west, and Oregon on the north. In 2000, it ranked ninth among the 17 Nevada counties in population and fourth in area (Harris, Riggs, and Zimmerman 2001; BEA 2005). Humboldt County is sparsely populated, with most of its population living in the only incorporated city, Winnemucca. The most rapidly growing area of the county is Grass Valley, located adjacent to and immediately south of Winnemucca (Governet Network Services 2001). Other urban areas in the county include Denio, McDermitt, Orovada, Paradise Valley, and Golconda.

Economic diversity in Humboldt County is considered average (920 versus a median of 961 for the US counties), but the County's economy largely depends on resource industries of agriculture and mining, both dependent on

public lands (Census 2000). Humboldt is the third leading agricultural county in the state, producing mint, alfalfa, potatoes, and beef cattle (USDA 2005a). The mining sector produced over one mill ounces of gold in 2000 (Nevada Bureau of Mines and Geology 2001). A mining dependent economy makes Humboldt County vulnerable to boom/bust cycles, leading to fluctuations in population and per capita income

In 2000, the largest portion of Humboldt County's population was under the age of 20 (34 percent), and the male/female ratio was nearly even (52 percent male and 48 percent female) (Census 1990 and 2000). Per capita income for the county ($24,700) was lower than the state ($30,437) and the nation ($30,906) (BEA 2005). Total full-time and part-time employment in Humboldt County increased from 8,400 jobs in 1992 to 8,969 jobs in 2002, resulting in a net increase of 6.8 percent over the ten year-period (BEA REIS 2002). The retail trade, services, and government sectors also employ large portions of the county. The smallest employment sectors were real estate and construction (University of Reno 2005).

Major employers are the Winnemucca Farms, Humboldt County School District, Newmont Mining, Getchell Gold, Winners Hotel and Casino, Humboldt County, and Wal-Mart (Nevada Department of Employment, Training, and Rehabilitation [DETR] 2005). In Humboldt County, labor income accounted for 69 percent and non-labor income accounted for 31 percent of the total personal income in 2002 (BEA REIS 2002).

The landscape in Humboldt County consists mainly of north – south running mountain ranges separated with long valleys, including the Black Rock Range, Pine Forest, Jackson, Santa Rosa and Sonoma Ranges, and desert valleys (including a large part of the Black Rock Desert). The northwest portion of the county contains portions of the Humboldt-Toiyabe National Forest and the Santa Rosa Paradise Peak Wilderness, and the western portion of the county includes much of the Black Rock NCA. Varied outdoor recreational offerings include hiking, camping, hunting, fishing, mountain biking, and water sports.

Humboldt County encompasses 6,169,180 acres, approximately 8.8 percent of the state. Portions of the Fort McDermitt, Summit Lake, and Winnemucca Colony Reservations lie within Humboldt County. Federally owned land makes up 81.5 percent of the county, tribal land makes up 0.36 percent, local government and private land makes up 18.2 percent, and state land accounts for approximately 50 acres. The BLM WFO manages a total of 4,353,689 acres (70.6 percent) of Humboldt County (BLM 2005a).

Lyon County

Lyon County is in the extreme southwest portion of the planning area, bordered by Churchill County on the northeast, Mineral County on the

southeast, California on the south, small portions of Douglas and Carson City Counties on the west, and Storey County on the northwest. It ranks sixth among the 17 Nevada counties in population and ranks fourteenth in area (Harris, Riggs, and Zimmerman 2001; BEA 2005). Dayton, Fernley, and Silver Springs are the county's three largest cities. Increasing at the rapid rate of 72 percent from 1990 to 2000, Lyon County was the third fastest growing county in Nevada (Department of Conservation and Natural Resources 2005).

In 2000, the largest portion of Lyon County's population was under the age of 20 (29 percent), followed closely by the baby boomers or those between the ages of 40 and 54 (22 percent). The largest individual age category is the one ranging from 40 to 44 years old and since 1990, the population has gradually gotten older. The median age in 2000 is 38.2 years, up from 36.4 years in 1990. The male/female ratio was nearly even (51 percent male and 49 percent female) (Census 1990 and 2000). Per capita income for the county ($2) was lower than the state ($30,437) and the nation ($30,906) (BEA 2005).

Lyon County is slightly under the median in terms of economic diversity (762 versus a median of 961 for the US counties) (Census 2000). Lyon County's economy largely depends on the mining and agricultural industries, however manufacturing, retail trade, and construction also account for a large portion of the County's jobs and private earnings. Minerals that have been extracted from the county include gold, copper, gypsum, silver, and diatomite (Lyon County 2005). The county is also producing approximately 23 percent of the state's crops, including alfalfa, onion, garlic, grains and potatoes. Livestock production includes beef, sheep, dairy operations, and llama breeding (Northern Nevada Development Authority 2005). Mining and agriculture are prominent industries, but services, trade, and manufacturing are the largest employment sector. The government also provides substantial employment. Major employers are Lyon County School District, Amazon.com, Lyon County, and Quebecor World (DETR 2005). Labor income was 64 percent and non-labor income accounted for 36 percent of total personal income in 2002 (BEA REIS 2002).

Lyon County encompasses 1,272,804 acres, approximately 1.8 percent of the state. Lake Lahontan State Park, Dayton State Park (including the Carson River), and the Mason Valley Wildlife Management Area are in Lyon County. Federally owned land makes up 67.2 percent of Lyon County, state-owned land makes up 2.1 percent of surface ownership, tribal land makes up 4.0 percent, and local government and private land makes up 26.9 percent. The BLM WFO does not manage any land in Lyon County (BLM 2005a).

Pershing County

Pershing County lies in the middle of the planning area, bordered by Washoe County on the west, Churchill County on the south, Lander County on the

east, and Humboldt County on the north. It ranks eleventh among the 17 Nevada counties in population and eighth in area (Harris, Riggs, and Zimmerman 2001; BEA 2005). Lovelock is the county's largest city and contains about half of Pershing County's population (approximately 7,500 people) (Pershing County Library 2005).

Pershing County's economic diversity is roughly average in comparison to other US counties (872 versus a median of 961 for the US counties) (Census 2000). Mining, agriculture, and tourism heavily influence the local economy. Pershing County contains a wider variety of minerals than any similarly sized area in the world, with large deposits of iron ore, mercury, tungsten, and gypsum. Agricultural practices focus on alfalfa, wheat, barley, and oats. All farm operations depend on water from the Humboldt River, which is stored in the Rye Patch Reservoir 22 miles north of Lovelock. Approximately 39,000 acres of the Lovelock Valley are irrigated with water from the Rye Patch Reservoir (Pershing County Library 2005). The Rye Patch Reservoir is enjoyed by both locals and visitors for a variety of recreational activities including fishing, boating, water skiing, camping, and picnicking.

The Humboldt River corridor, which runs through the middle of Pershing County, was originally settled by the Northern Paiute people, dating to before the nineteenth century. Pershing County's history has made it a highly desirable place to visit. Within the county are the Lovelock Indian Caves, the Humboldt River Basin, Ancient Lake Lahontan, and portions of the California Trail (BLM 2003). Lovelock Paiute tribal lands occupy 20 acres in southwest Lovelock (Inter-Tribal Council of Nevada 1996).

In 2000, the largest portion of Pershing County's population was under the age of 20 (28 percent), followed closely by the baby boomers (22 percent). The largest individual age category is the one ranging from 35 to 39 years old and the age group that has grown the fastest, as a share of total population, is 40 to 44 years. The male/female ratio was more heavily weighted towards males (61 percent male and 39 percent female) due to the prison (Census 1990 and 2000). Per capita income for the county ($16,892) was much lower than the state ($30,437) and the nation ($30,906), also due to the presence of the prison (BEA 2005).

In 2002, more than half the jobs in Pershing County were in either government or mining sectors. Services, construction, and trade also accounted for a large majority. The smallest employment sectors were real estate, public utilities, and manufacturing (University of Reno 2005). Major employers include the State of Nevada, Coeur Rochester Incorporated, Florida Canyon Mining, Eagle-Picher Minerals, Pershing General Hospital, and Pershing County (DETR 2005). Labor income accounted for 64 percent and non-labor income accounted for 36 percent of total personal income in 2002 (BEA REIS 2002).

Nevada Cement Company, current located outside of Fernley in Lyon County, is expecting to mine limestone near the town of Lovelock, in Pershing County. This project is expected to provide between 100 and 140 jobs. Overall, the relocation of this company will provide a significant benefit to the local economy.

Pershing County encompasses 3,861,416 acres, approximately 5.5 percent of the state. Federally owned land makes up 75.7 percent of Pershing County, local government and private ownership account for 24.3 percent and state land accounts for approximately 20 acres. The BLM WFO manages a total of 2,904,342 acres (75.2 percent) of the county (BLM 2005a).

Washoe County

Washoe County is in the far west portion of the planning area, bordered by California on the west, Oregon on the north, Humboldt, Pershing, Churchill, and Lyon Counties on the east, and Storey and Carson City Counties on the south. It ranks second among the 17 Nevada counties in population and seventh in area (Harris, Riggs, and Zimmerman 2001; BEA 2005). Reno, the second largest city in Nevada, is in Washoe County, as well as Sparks and Incline Village, at Lake Tahoe (DETR 2005).

Rapidly growing Washoe County is considered one of the state's "urban" counties, along with Carson City, Clark, and Douglas. The county is on the eastern slopes of the Sierra Nevada Mountains and offers a variety of recreational opportunities provided by mountains, beaches (Lake Tahoe and Pyramid Lake), and open space, including portions of the Black Rock Desert (Washoe County 2005).

In 2000, the largest portion of Washoe County's population was under the age of 20 (28 percent), and the male/female ratio was practically even (51 and 49 percent) (Census 1990 and 2000). Per capita income for the county ($36,831) was higher than the state ($30,559) and the nation ($30,906) (BEA 2005).

Washoe County's economic diversity is slightly below average in comparison to other US counties (734 versus a median of 961 for the US counties) (Census 2000). The service sector, followed by trade, government, and construction, provides the most job opportunities in Washoe County. The smallest employment sector is mining. Major employers are the Washoe County Comptroller, International Game Technology, Washoe Medical Center, Integrity Staffing Solutions, City of Reno, and several hotel and casino operations (DETR 2005). Labor income was 63 percent and non-labor income accounted for 37 percent of total personal income in 2000 (BEA REIS 2002).

Washoe County encompasses 4,041,732 acres, approximately 5.8 percent of the state. Portions of the Humboldt-Toiyabe National Forest, the Pyramid Lake Reservation, and the Reno-Sparks Reservation are within Washoe County. An estimated 72.9 percent of Washoe County is owned by federal agencies, 0.40 percent is owned by the state, 8.8 percent is tribal land, and 17.9 percent is local government and private ownership. The BLM manages a total of 775,032 acres (19.2 percent) of the county's 2,701,562 acres (BLM 2005a).

2.2.5 Economic Influence of BLM-Managed Lands by Sector

Local economies realize direct and indirect benefits from a variety of activities on public lands, including visitor expenditures and the processing and harvesting of timber, minerals, and forage. The federal government redirects revenues collected from public lands back to the states in which they were collected. The BLM collects revenues from recreational and commercial activities that take place on the nearly 48 million acres of BLM-managed lands in Nevada. These revenues are collected from facilities, such as fees from campgrounds, from BLM recreation permits (special, competitive, organized group activity, and event use permits), timber sales, mining leases and mineral revenues, and grazing fees. Table 2-11 presents collections received (approximately $29 million) from specific activities on Nevada BLM-managed lands in 2002.

Table 2-11
Total Federal Collections from Nevada BLM-Managed Land and Minerals (2002)

Activity	Collection
Recreation and use fees	$2,021,103
Grazing fees	$2,014,727
Timber receipts, public domain	$4,451
Mining claim holding fees and service charges	$9,405,105
Mineral royalties, rents, and bonuses	$5,900,462
Miscellaneous receipts	$4,529,622

Source: BLM 2005b

How resource sectors on public lands influence the state and local economies in Nevada is discussed below. In the WFO planning area, sectors of influence include recreation, grazing, and mining. In 2004, forestry receipts collected from the WFO totaled about $250. Of that, about $185 was from Christmas tree sales and the balance was generated from firewood purchases. As evident from receipt totals, the forestry sector consitutes a small portion

of revenue source for the WFO, and is therefore, not discussed in detail (Johnson 2005a).

Recreation Sector

United States

Participation in outdoor recreation activities is practically universal throughout the United States, although involvement can vary due to factors such as region and income. A survey completed in 2003 for the American Recreation Coalition found that nine in ten Americans participated in an outdoor recreational activity over a twelve-month period. Of those respondents, 55 percent reported a visit to an area managed by a federal agency over the same twelve-month period (American Recreation Coalition 2004).

Table 2-12 presents an annual estimate of US participation in outdoor recreational activities based on a sample taken between July 1999 and July 2002.

Table 2-12
Percent and Number of People Ages 16 and Older in the US Participating in Outdoor Recreational Activities

Type of Outdoor Activity	Number of Participants (in millions)	Proportion of Participants
Participated in Any Type of Activity	290.9	98.5%
Trail/Street/Road Activities	192.4	90.3%
Traditional Social Activities (Family Gathering, Picnicking)	177.7	83.4%
Viewing and Photographic Activities	171.5	80.5%
Viewing and Learning Activities	154.7	72.6%
Driving for Pleasure Activities	142.6	66.9%
Swimming Activities	141.3	66.3%
Outdoor Adventure Activities	131.1	61.5%
Boating/Floating/Sailing Activities	88.0	41.3%
Fishing	77.6	36.4%
Snow and Ice Activities	62.2	29.2%
Outdoor Team Sports	43.9	20.6%
Hunting	27.5	12.9%

Source: US Forest Service and the University of Tennessee, Knoxville 2002

According to this sampling, 98.5 percent of the sampling pool participated in some type of outdoor recreation activity. The percentage of Americans participating in activities on trails, streets, and roads was 90.3, and the percentage participating in traditional social activities was 83.4 percent. The survey also revealed that the five most popular individual activities in the US include walking (86 percent), family gathering (76 percent), viewing natural

scenery (64 percent), visiting a nature center, nature trail, or zoo (62 percent), and picnicking (60 percent) (US Forest Service and the University of Tennessee, Knoxville 2002).

As the popularity of recreational activities continues to grow among Americans, so does the competing demand for use of federal lands. In 2003, 66.6 million people visited the 3,300 recreational sites maintained by the BLM in the US. In comparison, there were 279 million visits to the 388 National Park Service sites, including parks, monuments, and battlefields; 39 million visits to the 544 Fish and Wildlife Service wildlife refuges; and 90 million visits to the 308 Bureau of Reclamation sites (American Recreation Coalition 2004).

Beginning in 2001 and continuing more strongly in 2003, a long-time pattern of increasing outdoor recreation participation evolved into a downward trend. Data from 2003 shows that the decline in outdoor recreation participation is partially a result of the growth in the public's ownership and use of electronic communications and leisure options. Only one activity, driving for pleasure, showed a substantial increase between 2001 and 2003. Concerns about travel arising from the events of September 11, 2001, also are likely to have contributed to this decline, as well as several other factors, such as leisure time spent on the Internet and increased offerings through cable and satellite television channels. The decline in frequency of outdoor recreation participation has been especially apparent among young adults, a group that reports high access to the Internet (American Recreation Coalition 2004).

Data also show that there is an obvious disparity in outdoor recreation participation throughout various regions of the country. Residents of the Northeast and South are significantly less likely to participate in almost all forms of outdoor recreation than residents of the Midwest and the West. Midwestern residents exceed national participation rates for all types of outdoor recreational activities, and West residents' rates follow closely behind, falling below national rates in just a few activities. The West also had the lowest percentage of residents (six percent) reporting no outdoor recreation participation, which was less than half of the national rate (American Recreation Coalition 2004).

Additional survey data display a clear correlation among income, education, and higher participation in outdoor recreation. This correlation also was present in the 2003 research. Those with a college degree or higher reported greater participation in outdoor activities, compared with the national average or with those with a high school degree or less. Similarly, those with household incomes of $75,000 or more also reported greater outdoor recreation participation than those with household incomes below $30,000 (American Recreation Coalition 2004)

Nevada and the WFO Planning Area

Growth and expansion in Nevada's tourism and recreation industry have been a significant factor in Nevada's economy (Table 2-13). Nevada is the single most tourism-dependent state in the nation, ranked number one for per capita receipts generated from travel expenditures. Nevada ranked number two for total travel expenditures ($16,275.70 million), following only California, whose population exceeded 31 million in 2002, compared to Nevada's population of an estimated 1.4 million (Western States Tourism Council 2005).

Table 2-13
Tourism Dependency by State

	Travel Expenditures (millions $)			Population	Per Capita Receipts	
	Domestic	International	Total	(millions)	($)	Rank
Arizona	5,866.80	1,297.40	7,164.20	3.94	1,818.30	10
California	43,981.80	11,530.00	55,511.80	31.2	1,779.20	13
Colorado	6,396.20	501.2	6,897.40	3.57	1,932.00	8
Hawaii	6,178.80	5,679.50	11,858.30	1.17	10,135.30	2
Idaho	1,536.10	57	1,593.10	1.1	1,448.30	22
Montana	1,445.80	151.4	1,597.20	0.84	1,901.40	9
Nevada	14,484.90	1,790.80	16,275.70	1.39	11,709.10	1
New Mexico	2,836.90	107	2,943.90	1.62	1,817.20	11
Oregon	3,937.90	272.2	4,210.10	3.03	1,389.50	27
Utah	2,845.60	468.5	3,314.10	1.86	1,781.80	12
Washington	5,590.00	805.1	6,395.10	5.26	1,215.80	34
Wyoming	1,129.80	123.9	1,253.70	0.45	2,786.00	5

Source: Western States Tourism Council 2005

Its high desert region and over 300 mountain ranges and peaks make Nevada a highly desirable place to recreate. In 2004, the Leisure and Hospitality sector employed approximately 27 percent of Nevada's working population. The traveler accommodation industry is projected to be the fastest growing job sector, increasing from 203,700 employees in 2002 to an estimated 289,135 by 2012, resulting in a 41.9 percent increase over a ten-year period (DETR 2005). This projection is directly related to visitor numbers. Table 2-14 summarizes visitor volume in Nevada from 2003 through 2004.

From January 2003 to December 2004, the total number of visitors to Nevada increased from 48.6 million to 50.5 million, an increase of approximately four percent. The largest increases occurred in the spring, with February, March, and April increasing 4.8, 8.3, and 10.0 percent, respectively. The only month that the visitor population decreased was August (-2.4 percent). Total number of people visiting state and nearby national parks also

increased over that same two-year period, from 26.0 million to 26.1 million (Nevada Commission on Toursim 2005).

According to a statewide survey completed in 2001, approximately 84 percent of Nevadans participate in some type of outdoor recreation activity (DeLoney 2001). Table 2-15 lists the ten most popular outdoor recreation activities in Nevada in 2002 with Nevadans age 16 years or older, based on the 1999-2002 National Survey on Recreation and the Environment. The most popular activity was walking for pleasure, with 78.4 percent of Nevadans participating, followed by family gatherings (70.2 percent) and viewing or photographing natural scenery (56.6 percent) (SCORP 2003).

Table 2-14
Visitor Volume

Month	2003	2004	Percent Change
January	3,932,104	4,084,046	3.9%
February	3,785,986	3,969,395	4.8%
March	4,159,209	4,505,005	8.3%
April	3,994,373	4,392,480	10.0%
May	4,173,448	4,382,698	5.0%
June	4,092,173	4,128,505	0.9%
July	4,327,012	4,384,400	1.3%
August	4,452,907	4,346,794	(2.4)%
September	3,950,159	4,235,420	7.2%
October	4,230,163	4,460,887	5.5%
November	3,810,779	3,852,131	1.1%
December	3,694,924	3,807,705	3.1%

Source: Nevada Commission on Tourism 2005

Table 2-15
Ten Most Popular Outdoor Recreation Activities in Nevada in 2002

Activity	Percent Participating	Number of Participants
Walk for pleasure	78.4	1,336,806
Family gathering	70.2	1,196,987
View/photograph natural scenery	56.6	965,092
Picnicking	56.2	958,272
Visit nature centers	51.7	881,542
Sightseeing	48.5	826,978
Driving for pleasure	47.6	811,632
Swimming in outdoor pool	46.2	787,761
Attend outdoor sports events	41.9	514,441
View/photograph, other wildlife	40.8	695,685

Source: SCORP 2003

The main federal agencies that provide recreational opportunities throughout Nevada include the BLM, the US Forest Service, the US Fish and Wildlife Service, and the National Park Service, with most recreational development occurring near urban areas. The BLM alone manages approximately 1.2 million acres of recreation-designated lands in Nevada, such as the Red Rock Canyon National Recreation Lands, Hickison Petroglyph Site, and Walker Lake's Sportsman's Beach (SCORP 2003). Additional recreation opportunities are made available by local and state agencies, such as the Nevada State Parks. Table 2-16 provides a summary of significant recreation sites in the WFO planning area and the provider.

Table 2-16
Recreation Sites Within the WFO Planning Area

Site	Agency
Black Rock Desert	BLM
Pine Forest	BLM
Water Canyon	BLM
High Rock Canyon	BLM
Lye Creek	US Forest Service
Gerlach-Empire Regional Park	Local
Lahontan Reservoir	Nevada State Parks
Rye Patch Reservoir	Nevada State Parks

Source: SCORP 2003

These sites provide a variety of recreational opportunities, including hiking, biking, climbing, water sports, and off-roading. According to Nevada's 2003 SCORP, the public attached the highest importance rating to protecting, maintaining, and increasing public access to public lands for the diversity of outdoor recreational users. In the 1992 SCORP, over ten years ago, this issue was ranked fifth. Many view federal lands as valuable opportunities for

outdoor recreation activities, as well as a means for economic growth (SCORP 2003).

The Nevada Department of Wildlife (NDOW) issues hunting and fishing licenses and permits. In the 2003-2004 season, the number of hunting permits issued to both residents and nonresidents totaled 37,570. During that same period, the estimated number of fishing permits issued was 95,884 (NDOW 2004a). Combined, the Onion Valley Reservoir, Humboldt River, Knott Creek Reservoir, Squaw Creek Reservoir, and Rye Patch Reservoir reported over 18,452 visitor days in 2004 (NDOW 2004b). Table 2-17 portrays hunting and fishing license sales for counties in the WFO planning area.

Table 2-17
County License Sales for Hunting and Fishing 2002-2003

County	Number of Hunting Licenses		Number of Fishing Licenses	
	Resident	Nonresident	Resident	Nonresident
Churchill	716	218	2,364	536
Humboldt	556	601	1,415	495
Lyon	470	104	2,327	564
Pershing	95	15	274	71
Washoe	5,391	895	13,802	2,032
County Total	7,228	1,833	20,182	3,698

Source: NDOW 2004

Combined, the five planning area counties sold over 9,000 hunting licenses and close to 25,000 fishing licenses from 2002 to 2003. Approximately 20 percent of those licenses were sold to residents outside Nevada, suggesting a sizeable number of recreationists traveling to Nevada from other states. Washoe County sold the largest number of hunting and fishing licenses, 6,286 and 15,834. Humboldt County sold the largest proportion of licenses to nonresidents, 51.9 percent of hunting licenses and 25.9 percent of fishing licenses. The fewest nonresident hunting and fishing licenses were sold in Pershing County (NDOW 2004).

In 2004, the Nevada Association of Counties surveyed its membership to gauge opinion regarding the economic benefits and costs associated with recreational activities on public lands. All respondents felt that there were additional costs incurred by counties in some form as a result of recreational use of public lands. Ninety-two percent of the respondents identified additional law enforcement costs, 86 percent identified road maintenance costs, and 81 percent identified search and rescue costs. Economic benefits derived from recreation on public lands included additional gas tax revenue and additional sales and room tax revenue. Overall, the majority of respondents felt that economic benefits outweighed the costs (62 percent

answered "yes," 22 percent answered "no," and the remaining 16 percent did not know) (Nevada Association of Counties 2004).

Table 2-18 displays the diverse activities enjoyed by recreationists, the estimated number of visitor days on lands or waters administered by the BLM, and the average expenditure information by activity. Recreation expenditure profiles for locals and non-locals were developed based on existing data sources and are conservative assessments; estimates are in 2001 dollars.

Table 2-18
Recreation Use in WFO Planning Area on BLM-Managed Lands From October 2003 through September 2004

Recreation Activity	Annual Visitor Days (Local/Non-Local) [1]	Average District Expenditures Per Day (Local/Non-Local) [2]	Total Direct Expenditures[3]
Backpacking	1,084/510	$22.40/$39.16	$44,253
Bicycling	2,197/1034	$22.40/$39.16	$89,704
Camping	6,115/2,878	$15.19/$27.09	$170,852
Driving for Pleasure	6,497/3,058	$25.53/$49.58	$317,484
Fishing (freshwater)	4,302/2,025	$38.58/$70.84	$309,422
Environmental Ed.	307/144	$22.40/$39.16	$12,516
Horseback Riding	955/449	$22.40/$39.16	$38,975
Hunting[4]	7,503/3,531	$40.40/$79.59	$584,153
Hiking/Walking	1,565/737	$10.41/$38.69	$44,806
OHV Activities	6,673/3,140	$22.40/$39.16	$272,438
Picnicking	1,475/694	$15.19/$27.09	$41,206
Photography	2,172/1,022	$22.40/$39.16	$88,674
Racing	555/261	$22.40/$39.16	$22,653
Rock Hounding	1,429/673	$22.40/$39.16	$58,364
Viewing – Other	1,553/730	$22.40/$39.16	$63,374
Wildlife Viewing	583/274	$22.40/$39.16	$23,789
Winter Activities	2,997/1,412	25.47/44.02	$138,490
Other	2,060/970	$22.40/$39.16	$84,129
Total	**50,022/23,542**		**$2,405,283**

Based on information generated from the BLM's recreation database, the Recreation Management Information System, an estimated 73,500

[1] Resident and Non-resident ratios developed based on Black Rock-High Rock Final RMP/EIS (2003).
[2] Recreation expenditure profiles do not necessarily correspond directly to the specific types of recreation activities occurring within the WFO planning area. Average expenditures for each activity are based on the most applicable expenditure category. Average district expenditures are based on 2001 dollars provided in Black Rock-High Rock Final RMP/EIS.
[3] Total Direct expenditures by recreationists result in direct and indirect income effects to local proprietors and residents.
[4] Hunting totals are a combination of big game, small game, upland bird, and waterfowl.

recreational users visited the WFO planning area in 2004. The highest recreational use categories in the planning area were hunting, camping, driving for pleasure and OHV activities. Applying recreation expenditure estimates to the estimated number of days for each activity yields a total estimate of $2,405,283 (2001 dollars) for expenditures associated with recreational activities in the planning area; $1,281,201 for local visitors, and $1,124,081 for non-local visitors. This averages about $32.70 per person, per day.

Additionally, a variety of commercial, competitive, and organized group uses occur on BLM-administered lands, all of which are administered under the special recreation permit program. In 2003, the BLM collected $2,027,103 in Nevada from recreation fees and permits (BLM 2004). The Burning Man Festival is BLM's largest recreational use permit nationwide and is issued for over 25,000 people annually. Although it is administered through the Black Rock-High Rock NCA, it is issued through the WFO. In 2004, this recreational use permit generated approximately $707,400. A total of almost 37,000 participants were issued permits by the BLM within the WFO in 2004.

Mining Sector

The BLM manages approximately 47.8 million surface acres and 56.1 million acres of mineral estate underlying federal surface land in Nevada. It also manages approximately 250,000 acres of mineral estate underlying privately owned land (BLM 2000a). Nevada's mining industry directly employed approximately 8,800 people in 2003, and the industry is responsible for another 44,000 jobs related to providing the goods and services needed by the industry and its employees (Nevada Bureau of Mines and Geology 2003). The average salary is over $63,000 a year, compared with a state average salary of $35,337 a year (Nevada Mining Association 2003). In Humboldt County, for example, the mining industry contributes a significant portion of private earnings to the county, approximately 42.5 percent (Table 2-9). Although much of the data is suppressed, the mining sector is also assumed to be a significant contributer in Pershing County, and to a lesser extent in Churchill County.

In 2003, mineral and energy production in Nevada was valued at $3.2 billion, a nearly nine percent increase from 2002. Nevada led the nation in the production of gold, barite, and diatomite and was the only producer of magnesite, lithium, and the specialty clays, sepiolite and saponite. Nevada produces other commodities, such as construction aggregate (sand, gravel, and crushed stone), lime, and cement (Nevada Bureau of Mines and Geology 2003).

Nevada is the nation's largest gold producer, the third largest in the world. In 2003, Nevada gold mines produced 7.3 million ounces, which was valued at

nearly $2.7 billion (Figure 2-1). Contributions from the mining industry to the economies of Nevada and the US include jobs, commerce, taxes, improvements to infrastructure, and helping to lower the US trade deficit. Local economic contributions from mining include the construction of new homes, casinos and other businesses, schools, and roads, which in turn maintain demand for local sources of sand, gravel, cement, and other commodities, which are plentiful in the state (Nevada Bureau of Mines and Geology 2003). Mining contributed $1.65 billion to Nevadans' personal incomes in 2003, an increase from $1.5 billion in 2002 (Nevada Mining Association 2003).

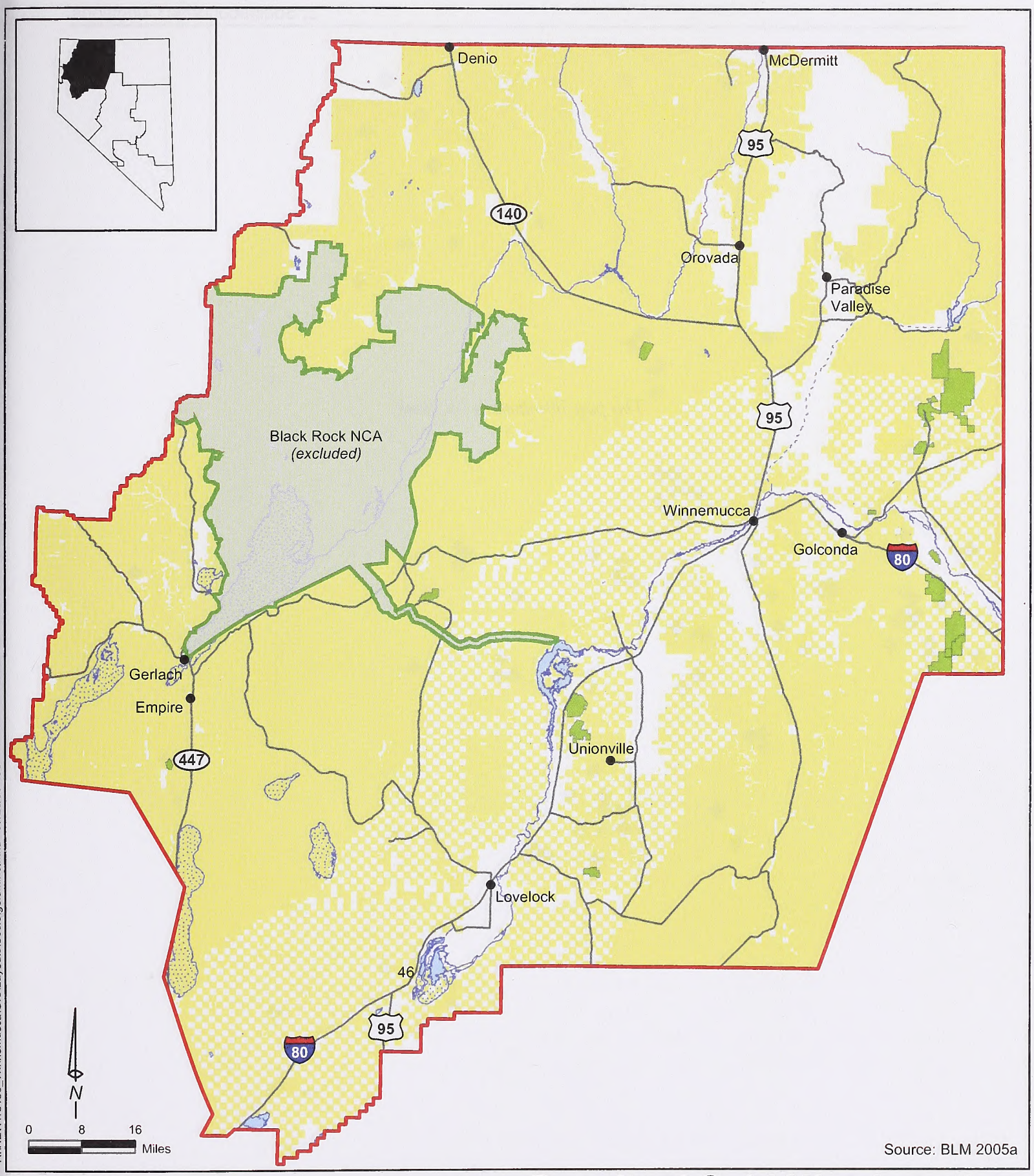
Nevada's silver production in 2003 totaled 10.4 million ounces. Silver production is a co-product or by-product of gold mining. In 2003 the Coeur Rochester Mine in Pershing County had a total silver production of nearly 5.6 million ounces. This one mine produced 55 percent of Nevada's silver in 2003. Nevada's production in 2003 accounted for 26 percent of the US total and 1.7 percent of the world total (Nevada Bureau of Mines and Geology 2004).

Nevada's public lands provide a good source for salable minerals, such as sand, gravel, stone, and clay, which are sold to applicants at fair market value. Aggregate production reached an all-time high in 2003 as a result of Nevada's growing population and needs for construction materials for homes, schools, streets, airports, and other businesses. Furthermore, demand will likely remain high due to Nevada's thriving population (Nevada Bureau of Mines and Geology 2004).

The mining industry was responsible for generating approximately 2,000 jobs within the five-county region. Table 2-19 lists average number of employees in the mining sector by county.

The BLM WFO administers leases and prospecting permits on acquired lands. There are 662 active mining claims (Figure 2-2) in the WFO planning area. These claims identify a particular parcel of Federal land, valuable for a specific mineral deposit or deposits. The right is restricted to the extraction and development of the mineral deposit as regulated by the BLM.

With the recent signing of the Energy Policy Act of 2005, which offers incentives to develop renewable energy, BLM is expected to see an increase in the development of renewable energy such as geothermal and wind. Geothermal provisions in the Act relating specifically to the BLM include 1) the BLM will hold competitive lease sales at least every two years, and 2) the BLM may lease multiple leases as a block if information indicates they could be produced as a unit (Geothermal Resource Council 2005).



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Legend

- Winnemucca Field Office
- Black Rock NCA (excluded)
- Permitted Mine Locations
- Bureau of Land Management
- Water

Permitted Gold Mine Locations Socioeconomic Report

Northwest Nevada

No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

Figure 2-1

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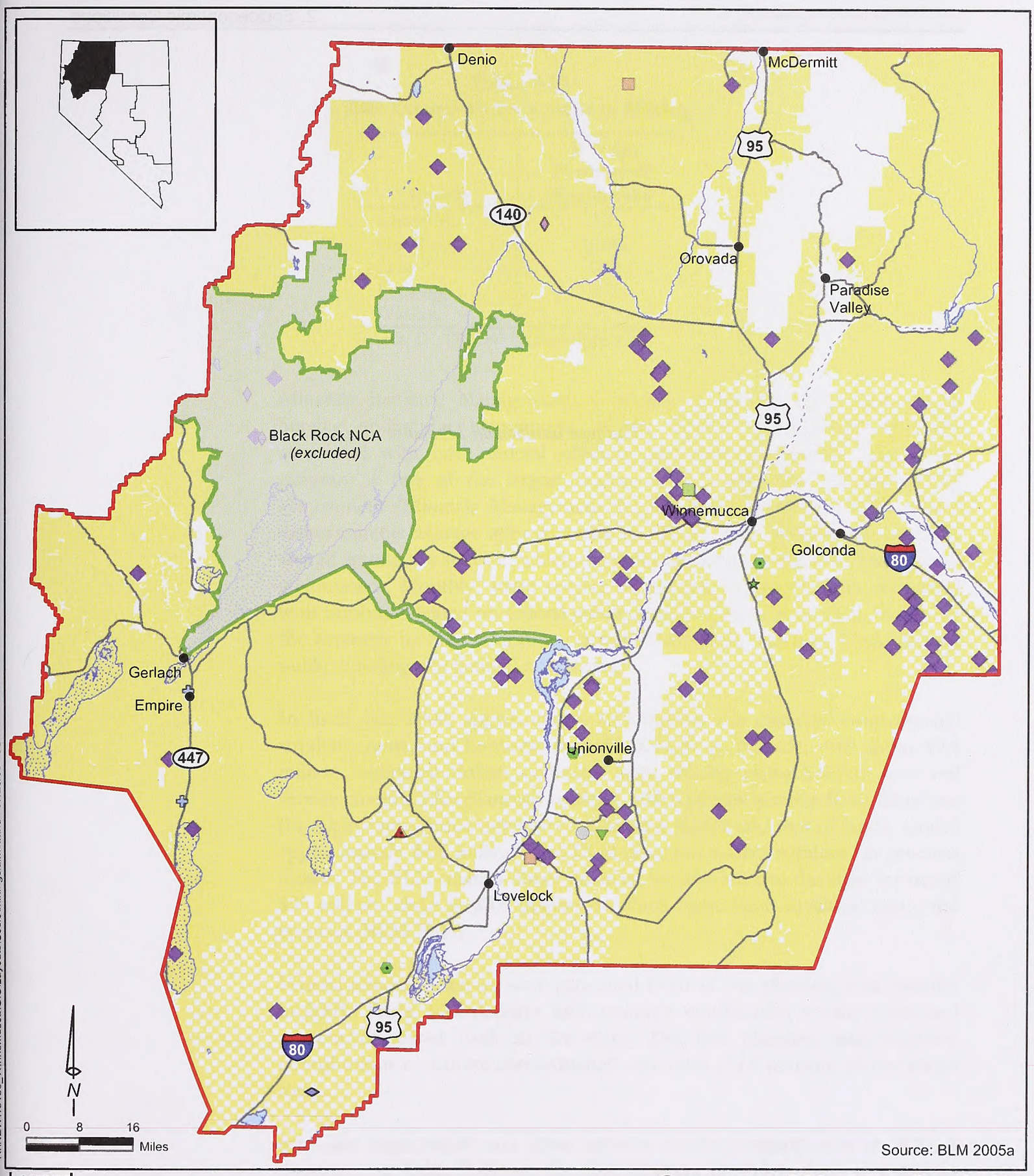

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Legend

- Winnemucca Field Office
- Black Rock NCA (excluded)
- Bureau of Land Management
- Water

Commodity

- Aluminum
- Clay
- Clay, Bentonite
- Diatomite-S
- Feldspar-S
- Gemstone
- Gold
- Gypsum
- Limestone
- Magnesium, Dolomite
- Silver

No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

Current Mining Activity Socioeconomic Report

Northwest Nevada

Figure 2-2

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Table 2-19
2001 County Employment in Mining

County	Average Number of Employees
Churchill	10
Humboldt	1,300
Lyon	120
Pershing	570
Washoe	*

Source: DETR 2003 (*Data suppressed)

Minerals Revenue Management, a branch of the Minerals Management Service under the Department of the Interior, manages all revenues associated with both federal offshore and onshore mineral leases. This program is one of the largest nontax revenue providers for the federal government (Minerals Management Service 2005). Annual collections and disbursements average approximately $6 billion. The revenues are generally shared among the states in which the federal lands are located and the federal government. Monthly, states receive 50 percent of the revenues associated with minerals located on federal public lands within their borders. States use the revenues to fund education, infrastructure improvements, road projects, public buildings, or general operations.

In fiscal year 2002, approximately $5.9 million was collected from mineral royalties, rents, and bonuses from BLM lands in Nevada, with about $9.4 million additional dollars collected from mining claim holding fees and service charges. Miscellaneous receipts, which primarily come from filing fees for applications, noncompetitive oil and gas leases, and rent of lands, totaled approximately $4.5 million. The BLM does not collect royalties on precious metals. The BLM made a direct financial transfer back to the state for nearly $29 million, close to $3.6 million of which came from royalties, rents, and bonuses (BLM 2003).

Federal mineral revenues were generated from all five planning area counties in 2001. Table 2-20 displays each county's contributing royalty value and amount disbursed back to the state. The five planning area counties' contributions constitute approximately one third (34.8 percent) of the state's total.

Minerals employment and labor income in the planning area in 2001 is presented in Table 2-21 for the five counties in which there is a mining industry. While the US Forest Service is responsible for managing surface land, the BLM manages subsurface minerals within the National Forests and works with the US Forest Service to manage subsurface minerals. The BLM

Table 2-20
Federal Mineral Revenue Disbursements
Identified by County of Origin (Fiscal Year 2001)

Location	Product	Royalty Value	Disbursed to State
Churchill County			
	Geothermal	$2,040,273.89	$1,202,136.94
	Hot water	$58,074.02	$29,037.01
	Oil	$11.10	$5.55
	Other revenues	$97,127.08	$48,563.54
	Rent	$101,123.50	$50,561.75
	Subtotal	**$2,296,609.59**	**$1,148,304.79**
Humboldt County			
	Rent	$5,252.00	$2,626.00
	Subtotal	**$5,252.00**	**$2,626.00**
Lyon County			
	Rent	$80.66	$20.17
	Subtotal	**$80.66**	**$20.17**
Pershing County			
	Other revenues	$2,896.50	$1,448.25
	Rent	$25,185.50	$12,592.75
	Subtotal	**$28,082.00**	**$14,041.00**
Washoe County			
	Geothermal	$92,178.36	$46,089.18
	Hot water	$1,813.00	$906.50
	Other revenues	$1,759.00	$879.50
	Rent	$11,836.37	$5,908.60
	Subtotal	$107,586.73	$53,783.78
State of Nevada Total		**$7,005,643.71**	**$3,502,534.52**

Source: Minerals Management Service 2005

Table 2-21
County Mineral Employment and Labor Income (2001)

County	Employment (Annual Average Jobs)	Employment as a Percentage of Labor Force	Labor Income (Annual Average Dollars)
Churchill	*	*	*
Humboldt	1,254	18%	$62,095
Lyon	76	<1%	$35,770
Pershing	384	16%	$46,399
Washoe	259	<1%	$96,873
Planning Area Total/Average	395	<1%	$48,227

*Indicates no employment or suppressed data.
Source: US Department of Labor 2005

itself manages sand and gravel mining on its lands. Due to the sensitivity of the industry, some information is suppressed to protect the limited number of employees and employers.

Although Washoe County shows the highest minerals-related labor income, no major mines in Washoe County are within the WFO planning area (Nevada Mining Association 2003). Humboldt County has the highest minerals-related labor income and employment, with major mines for gold and industrial minerals within the planning area. In Humboldt County, Placer Dome operators recently decided to reopen Turquoise Ridge at the Getchell Mine, which would continue to employ 65 contract miners in the presently active Getchell Mine and would employ 300 to 325 local personnel for Turquoise Ridge (Schlottmann 2004). Similarly, Pershing County, which also has a mining-dependent economy with major gold and industrial minerals mines (Nevada Mining Association 2003), employs the second largest number of minerals workers and reports the third highest minerals-related income.

Livestock Grazing/Rangeland Management

Livestock Grazing

Public rangelands provide habitat and forage for domestic livestock, wildlife, and wild horses and burros. Within the administrative boundary of the WFO livestock grazing occurs on approximately 103 grazing allotments that are leased by about 110 ranchers. The grazing allotments vary from less than 100 acres to over one million acres. Public rangelands support a variety of wildlife that is representative of those species found in Great Basin ecosystems. Large wildlife game present on public lands within the WFO include; mule deer, pronghorn antelope, and Bighorn sheep. Other species include upland game bird species (chukar, quail, sage grouse, & doves), cougar, assorted raptors, about 70 species of waterfowl and shorebirds, more than 240 species of neo-tropical migrant birds, and a number of invertebrate species. There are about 3,000 wild horses and about 291 burros found on 20 Horse Management Areas within the WFO.

Counties located within the administrative boundary of the WFO include; Humboldt, Washoe, Pershing, Lyon, and Churchill. Three of these counties are within the top five Nevada counties for agricultural sales and are important agricultural contributors (Table 2-22).

Table 2-22
Top Five Nevada Counties for Agricultural Sales 2002

	County	Percent of State Total Receipts	Million $
1	White Pine	17.0	76.0
2	Lyon	16.7	74.5
3	Humboldt	12.3	54.9
4	Churchill	11.3	50.6
5	Elko	10.1	45.3
State of Nevada Total			447.0

Source: USDA 2005

Livestock grazing on public land continues to be important to local economies within Nevada. As shown in Table 2-23, generally cattle and calf production in Nevada has remained relatively stable ranging from 152,915,000 lbs in 1994 to 171,335,000 in 2003. Gross income has gradually increased over time ranging from $132,388.000 in 1994 to $185,205,000 in 2003.

Table 2-23
Cattle and Calves: Production and Income, Nevada, 1994-2003

Year	Production	Marketings	Value of Production	Cash Receipts	Value Home Consumption	Gross Income
	-------000 Lbs-------			----------000$'s----------		
1994	152,915	176,000	113,009	130,640	1,748	132,388
1995	151,255	178,000	86,748	102,436	1,360	103,796
1996	154,715	166,000	74,089	81,017	1,150	82,167
1997	152,860	185,400	92,246	112,287	1,434	113,721
1998	153,700	187,000	94,333	114,870	1,762	116,632
1999	168,600	192,000	117,250	134,456	2,010	136,466
2000	170,550	202,000	141,061	167,758	2,414	170,172
2001	176,140	235,000	146,911	192,470	2,412	194,882
2002	171,090	119,000	123,866	142,471	2,097	144,568
2003	171,335	210,600	151,734	182,691	2,514	185,205

[1]Receipts form marketings and sale of farm slaughter
Source: USDA Nevada Agric. Statistics

Counties within the WFO administrative boundary reflect stabile cattle and calf inventories. Inventories of cattle and calves range from a low of 191,000 in 2004 to a high of 203,000 in 2001 (Table 2-24).

Table 2-24
Cattle and Calves: Inventory, January 1, by County, Nevada, 2004

County	1999	2000	2001	2002	2003	2004
Churchill	40,000	39,000	38,000	38,000	43,000	41,000
Humboldt	66,000	67,000	70,000	66,000	66,000	63,000
Lyon	40,000	40,000	41,000	37,000	35,000	38,000
Pershing	29,000	28,000	28,000	26,000	25,000	23,000
Washoe	24,000	24,000	26,000	26,000	26,000	26,000
Planning Area Total	199,000	198,000	203,000	193,000	195,000	191,000

Source: USDA 2005b – Nevada Agricultural Statistics

Livestock Management

The BLM manages public land grazing by issuing grazing permits. The grazing fee for western public lands managed by BLM is set annually utilizing a formula based on the market value of beef. The fee set for 2004 was 1.43 per animal unit month (AUM). One AUM is equal to the amount of forage required to support one cow and one calf for one month (approximately 800 pounds of forage).

In Nevada, for fiscal year 2002, the BLM collected about $2,014,727 from grazing fees. Table 2-25 presents grazing fee receipts collected in 2004 within the planning area counties. Humboldt County generated the largest amount of grazing fee receipts ($319,032) with Churchill County generating the smallest ($2,696).

Table 2-25
Grazing Fees Collected for Livestock Permits Administered by the Winnemucca Field Office Planning Area Counties (Fiscal Year 2005)

County	Fiscal Year To Date Collections
Churchill	$2,696
Humboldt	$319,032
Pershing	$65,399
Washoe	$23,741
Total	$410,868

Source: BLM 2005

The BLM returns a portion of the funds received from grazing receipts to Nevada, which are displayed in Table 2-26. These payments are about 12.5 percent (Taylor Grazing Act Section 3 lands) of grazing fees collected. These funds are distributed to various grazing boards within the state.

Table 2-26
BLM Disbursement Funds to Nevada

County	Disbursements
Churchill	$337
Humboldt	$39,879
Pershing	$8,174
Washoe	$2,967
Total	$51,357

Source: BLM 2005

Presently, the WFO has allocated a total of 337,061 permitted livestock AUMs. In 1982 the active AUMs totaled 308,624* (based upon the average licensed use for the previous three years, 116,551 SG + 192,073 PD).

Since 1982 a net of 5,217 AUMs has been transferred from the WFO to other BLM field offices (7,375 transferred out of WFO administration minus 2,158 accepted by WFO for administration – See Table 2-27). In the

Table 2-27
WFO Grazing Allotments Administration Transferred – Since Completion of the Grazing EIS

WFO Allotment Name	Current BLM Administration Office	Number of WFO AUMs Transferred (3 year avg.)
Jakes Creek	Elko	276
Tall Corral (Merged with Little Humboldt Allotment	Elko	620
White House	Elko	48
Twenty Five	Elko	1,054
North Buffalo	Battle Mountain	**
South Buffalo (Includes old Buffalo Valley Allotment	Battle Mountain	**
Owyhee	Vale	599
Quinn River	Vale	292
McDermitt Creek	Vale	188
Zimmerman	Vale	2,010
Sand Hills	Burns	490
Grassy Basin	Burns	326
South Fork	Burns	360
Holloway Mtn.(Combined into Sand Hill Allotment Above	Burns	804
Totals		7,375

Source – Paradise-Denio & Sonoma-Gerlach Grazing EISs (1982) and BLM Rangeland Administration System

* Paradise-Denio Grazing Environmental Impact Statement (1981 page 1-2), Sonoma Gerlach Grazing Environmental Impact Statement (1981 page 1-2).

** North and South Buffalo Allotment AUMs were transferred prior to the Grazing EIS

meantime BLM administration has permitted a total of 337,061 AUMs. Comparing the 1982 total of 308,624 (3 year average) AUMs to the current permitted AUMs of 337,061, there has been an net increase of 28,437 AUMs.

Since the completion of the Sonoma-Gerlach – Paradise-Denio Grazing EISs, the WFO has also accepted administration responsibilities for grazing allotments outside the WFO administrative boundary. These allotments are identified in Table 2-28.

Table 2-28
Grazing Allotment Administration –
Acquired by WFO Since Completion of Grazing EIS

Allotment Name (Administered by WFO)	Past BLM Administration Office	AUMs
Little Owyhee (Elko Portion)	Elko	**
Bullhead (Elko Portion)	Elko	**
Home Station Gap	Battle Mountain	934
Hole in the Wall	Carson City	1,224
Pueblo Mtn.	Vale	**
Totals		2,158

Source: Paradise-Denio & Sonoma-Gerlach Grazing EIS (1982) – BLM Rangeland Administration System
** Transfer of AUMs occurred prior to Grazing EIS

Considering administration of livestock AUMs over time, combined with production, income and inventory data, livestock management on public lands administered by the WFO has contributed to stable and consistent market conditions for livestock producers.

Payments in Lieu of Taxes

Congress appropriates funds for payments in lieu of taxes (PILT) to eligible local governments each year. The BLM calculates the payment amounts using a formula based on population and the amount of federal land in a jurisdiction. These payments are in addition to federal revenues transferred to local governments under other programs, such as income generated from the use of public land for livestock grazing, timber harvests, and mineral receipts (BLM 2005b). Table 2-29 presents PILT payments received by the counties in the planning area in fiscal year 2003, 2004, and 2005.

Table 2-29
PILT Payments to Planning Area Counties (Fiscal Year 2003 and 2004)

County	FY 2003	FY 2004	FY 2005
Churchill	$1,151,139	$1,183,436	$1,236,886
Humboldt	$818,863	$841,654	$859,218
Lyon	$1,173,056	$1,203,255	$1,229,798
Pershing	$561,467	$577,210	$536,472
Washoe	$1,817,966	$1,868,954	$1,908,625
Planning Area Total	**$5,522,491**	**$5,674,509**	**$5,770,999**
Nevada Total	**$13,132,942**	**$13,495,376**	**$13,732,723**

Source: BLM 2005b

Of the planning area counties, Washoe received the largest PILT payments, while Pershing County received the smallest PILT payments. In fiscal year 2004 and 2005 PILT payments received by the planning area counties totaled $5,674,509 and $5,770,999, constituting 42% of the statewide PILT payment totals.

2.2.6 Community Economic Profile Workshop and Social Characteristics

On June 7 and 8, 2005, the BLM, in conjunction with the Sonoran Institute, hosted two community-level socioeconomic workshops in Humboldt and Pershing Counties. The Sonoran Institute's economist, Dr. Rebecca Carter, facilitated the workshops, which were designed to help people understand the link between economic well-being and environmental health. About ten representatives of local government and various other sectors, such as mining, attended each workshop, in addition to BLM representatives. The workshops each lasted one full day and had identical formats.

Attendees were introduced to the Economic Profile System (EPS), jointly designed by the Sonoran Institute and the BLM, used to produce detailed socioeconomic reports on counties in the planning area. From inception, EPS was structured to help those who are not economists gather and easily interpret economic statistics. Attendees were provided with a demonstration on how to generate a community (or economic) profile, a CD containing a copy of the EPS program, and a workbook providing instructions for using the EPS.

Using the EPS, small groups discussed community trends by analyzing tables and figures provided in the profiles. Groups discussed population, employment and personal income by industry, average earnings, developing business sectors, and economic growth. Participants also developed visions for the future of their communities and discussed the role public lands could have to help achieve those community visions.

Humboldt County: The EPS profiles were used at the workshop to provide a basis of information to participants about Humboldt County. The EPS profiles provide a wide variety of informative data such as long-term trend analysis, changes in employment and personal income by sector, change of business establishments by type and size, and non labor-sources of income, like retirement and age-related income. Additionally, counties are compared to states and the nation. Through using the EPS profile, participants could identify some significant changes that had occurred over the last 30 years, which led to discussions about why some of those changes likely occurred. Table 2-30 provides a summary of major data themes and figures that are portrayed in detail throughout the EPS profile.

Table 2-30
Performance Comparison between Humboldt County and the US Median

	Humboldt County	US Median
Population Growth (Annualized rate, 1970 – 2002)	2.7%	0.7%
Employment Growth (Annualized rate, 1970 – 2002)	3.2%	1.4%
Personal Income Growth (Adjusted for inflation, annualized rate, 1970 – 2000)	3.5%	2.3%
Non-labor Income Share of Total in 2002	30.7%	39.2%
Median Age	33.4	37.3
Per Capita Income (2002)	$25,917	$23,528
Average Earnings Per Job (2002)	$35,502	$26,782
Education Rate (% of population 25 and over who have a college degree)	14.2%	14.5%
Employment Specialization	920.1	961.0
Ratio Rich/Poor	3.7	8.7
Housing Affordability	157	186
Change in Housing Affordability (1990 – 2000)	7.4%	10.3%
Government share of total employment	15%	15%
Unemployment in 2003	5.0%	5.8%

Source: US Census 2000; Bureau of Labor Statistics

Humboldt County is similar to the US median in many categories; however, there are a few notable differences. The US median population grew 0.7 percent over a 32 year period, and Humboldt County averaged 2.7 percent. Employment growth in the County was double the US median. Yet Humboldt County was below the average for non-labor income per percentage of total income in 2002. The ratio of the rich to poor, indicating the number of households that made under $30,000 for every household that made over $100,000, was also lower in Humboldt County compared to the US median. The County also maintained a lower unemployment rate in 2003 (5 percent for the County, compared to 5.8 percent for the US).

The population for Humboldt County increased 25 percent over a ten year span from 1990 – 2000 (Table 2-31). During that time, the Baby-Boom generation experienced the largest growth (68 percent) indicating that the retirement population in Humboldt County is growing. The male/female split is relatively equal and has remained fairly stable over the same ten year period.

Table 2-31
Population for Humboldt County (1990 – 2000)

	Total Number	Under 20 years	40 – 54 (Baby Boom in 2000)	65 years and Over	Median Age
2000	16,106	5,466	3,753	1,213	33.4
1990	12,844	4,203	2,239	934	30.6
10 Yr Change	3,262	1,263	1,514	279	2.8
10 Yr % Change	25	30%	68%	30%	9
Male/Female % Split	52/48	53/47	54/46	47/53	- -

Source: US Census 1990 and Census 2000

In the Humboldt County workshop, participants discussed that Nevada is the fastest growing state in the nation and they expressed a need for balance among various resource, service, and economic-related activities. They wanted to diversify job opportunities in the county, thereby lessening impacts from fluctuating mining and agricultural markets. They recognized a swing in the agriculture sector from ranching to crop production and overall noted an aversion to taking risks due to the volatile economic structure in the county.

Strengths that participants identified in Humboldt County included their transportation infrastructure (close proximity to interstate highway and railroad), cooperative government, and a high quality of life as it relates to open space and public lands. Weaknesses included Winnemucca's distance to a major airport, flat topography (viewed as a weakness due to limited recreation opportunities), and a lack of diverse job opportunities, especially heavy dependency on transformative industries, such as mining.

At the workshop, it was noted that the cessation of mining at the Lone Tree complex, currently scheduled for August 2006, will have a direct impact on the local economy. The new Phoenix plant is scheduled to open the first quarter of 2006, but it will be in Lander County. Most employees will have the opportunity to relocate to the new plant, but this transition will result in changes for the workers, including commute times and distances, with the possibility that they will have to move. In addition, significant changes to revenue generated for the county and the city will occur, especially through

the services sector, which provides services critical to mine workers at the Lone Tree complex.

Workshop participants recognized the value of land for residential property is increasing, while the value for agricultural property is decreasing, and acknowledged the current trend of the population between the ages of 25 and 30 leaving the area in search of jobs, despite a desire to remain and settle within local communities. In-migration seemed to be mostly retirees and proprietors, including foreign investors who are buying properties sight unseen, often over the Internet.

Participants discussed several opportunities for stimulating economic growth in the region. Opportunities to increase in-migration include increasing the potential of technological avenues to small businesses (for example, Internet sales), attracting younger entrepreneurs, improving human services, such as hospitals, which will attract an older generation, and improving recreation opportunities, attracting all age groups for a variety of available activities.

Pershing County: In a similar workshop format to that of Humboldt County, an EPS profile for Pershing County was used to provide a foundation of knowledge for the participants. Table 2-32 provides a summary of tables and figures that are portrayed in detail throughout the EPS profile.

Table 2-32
Performance Comparison between Pershing County and the US Median

	Pershing County	US Median
Population Growth (Annualized rate, 1970 – 2002)	2.9%	0.7%
Employment Growth (Annualized rate, 1970 – 2002)	2.1%	1.4%
Personal Income Growth (Adjusted for inflation, annualized rate, 1970 – 2000)	1.8%	2.3%
Non-labor Income Share of Total in 2002	35.8%	39.2%
Median Age	34.4	37.3
Per Capita Income (2002)	$16,463	$23,528
Average Earnings Per Job (2002)	$33,956	$26,782
Education Rate (% of population 25 and over who have a college degree)	8.7%	14.5%
Employment Specialization	872.0	961.0
Ratio Rich/Poor	7.6	8.7
Housing Affordability	199	186
Change in Housing Affordability (1990 – 2000)	40.7%	10.3%
Government share of total employment	29%	15%
Unemployment in 2003	5.5%	5.8%

Source: US Census 2000; Bureau of Labor Statistics

Pershing County is similar to the national median in many aspects, but is set apart from the nation in a few categories. The US median population growth

over a 32 year period averaged 0.7 percent, whereas Pershing County averaged 2.9 percent. The County also has higher than average earnings, indicating that people who live in the County have higher paying jobs (e.g., mining and prison jobs). Per capita income in Pershing County is 30 percent lower than the US median. Workshop participants noted that figures could be artificially low due to the presence of the prison, which increases the county population but not to income earned. Housing affordability from 1990 – 2000 increased significantly (almost 41 percent), which is 30 percent more than the US median, indicating that housing has become more affordable in the last decade. The government share of total employment is also high compared to the average due to the high percentage of employment at the prison.

Similar to Humboldt County, Pershing County experienced tremendous population growth from 1990 to 2000, mainly within the Baby Boom generation. Pershing County's Baby Boom generation recorded a 99 percent increase over the ten year period. Overall, during that same time frame the entire population of the County increased 54 percent. The population has and continues to be dominated by males due to the prison.

Table 2-33
Population for Pershing County (1990 – 2000)

	Total Number	Under 20 years	40 – 54 (Baby Boom in 2000)	65 years and Over	Median Age
2000	6,693	1,871	1,458	520	34.4
1990	4,336	1,427	734	504	31.5
10 Yr Change	2,357	444	724	16	2.9
10 Yr % Change	54%	31%	99%	3%	9%
Male/Female % Split	61/39	53/47	65/35	49/51	- -

Source: US Census 1990 and Census 2000

Participants who attended the Pershing County workshop predicted that this county is "next," meaning as growth continues to spread northeast up Interstate 80, Pershing County and the town of Lovelock will experience tremendous growth at a rapid rate over the next several years. Reasons for this growth include access along the interstate corridor, proximity to the town of Fernley, the scheduled relocation of the Nevada Cement Company from the Fernley area closer to Lovelock, in addition to the new Far West Technologies manufacturing plant and the Phoenix mining complex.

Participants were surprised that the services sector provided more income in the county than government or mining jobs, and that mining and non-labor incomes accounted for a larger proportion of income than the government sector. Much of the government sector employment is due to the prison and is viewed as a stable part of Pershing County. Similar to Humboldt County, participants wanted to improve job diversity while maintaining a high quality of life and a strong sense of a rural community. They wanted expansion to be planned and based on a set of unified goals, not fragmented.

Strengths that participants in Pershing County identified were their location near the Reno/Sparks and Fernley area, proximity to an airport, an interstate highway, other highways, and the railroad, a high quality of life (low crime), quality of schools and hospitals, endless recreation activities, an interesting history, and open space and mountains. Weaknesses were a lack of available labor force and job diversity, high dependency on volatile job sectors, low number of manufacturing jobs, and a large population living in poverty.

Summary: While participants from both workshops were aware of the growth in service sector jobs, both were surprised by the degree to which professional services contributed to the growth. The disclosure that approximately one-third of personal income within Humboldt and Pershing Counties came from non-labor sources, which includes dividends, interest, rent, and transfer payments, also came as a shock. The greatest concern discussed in both areas was the lack of diversity in the job market and economic downturns that result from the mining industry. Both areas felt a strong need to diversify so as to minimize impacts from the boom and bust of the mining industry.

Participants discussed the role that public lands can play in achieving these goals and recommended that the BLM evaluate the opportunity to dispose of its lands in urban areas under the Recreation and Public Purposes Acts for parks and open space, or to explore disposing of land for economic development. Participants also recommended maintaining access to public lands, exploring additional recreation opportunities and developing recreation sites, and improving public outreach efforts.

SECTION 3
ENVIRONMENTAL JUSTICE

This section addresses specific topics related to environmental justice, as required by the National Environmental Policy Act. Specifically, a discussion of issues related to environmental justice is presented in accordance with Executive Order 12898, and issues related to protecting children from environmental health risks are presented in accordance with Executive Order 13045.

On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. This order requires that "each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities, on minority populations and low-income populations" (Executive Order 12898, 59 Federal Register 7629 [Section 1-201]). To comply with the order, the preparers of this report have gathered economic, racial, and demographic information generated to identify areas of low-income and high minority populations in and around the planning area.

3.1 DEMOGRAPHICS

The planning area includes portions of Churchill, Lyon, and Washoe Counties, most of Humboldt County, and all of Pershing County. Racial and ethnic data from 2000 for these counties and for Nevada have been compiled and are presented in Table 3-1. In 2000, the White population formed the dominant ethnic group within the planning area (83.1 percent), and the African American and Pacific Islander populations had the smallest representation (1.7 percent each). Churchill (4.8 percent), Humboldt (4.0 percent), and Pershing (3.4 percent) Counties had the largest Native American/Alaska Aleut populations, roughly three times larger than the state's population of 1.3 percent (US Census Bureau 2005).

Table 3-1
Total Percentage of Population by Race/Ethnicity (2000)

Location	White	Black, African American	Native American, Alaska Aleut	Asian, Pacific Islander	Some Other Race	Two or More Races	Latino, Hispanic, Any Race
State of Nevada	75.2%	6.8%	1.3%	4.9%	8.0%	3.8%	19.7%
Churchill County	84.2%	1.6%	4.8%	2.9%	3.2%	3.3%	8.70%
Humboldt County	83.2%	0.5%	4.0%	0.7%	8.5%	3.1%	18.9%
Lyon County	88.6%	0.7%	2.4%	0.7%	4.6%	2.9%	11.0%
Pershing County	77.7%	5.3%	3.4%	0.8%	9.4%	3.3%	19.3%
Washoe County	80.4%	2.1%	1.8%	4.8%	7.7%	3.3%	16.6%
Average Total	**83.1%**	**1.7%**	**3.4%**	**1.7%**	**7.0%**	**3.0%**	**15.5%**

Note: Percentages for a given year do not add to 100 because Hispanic is an ethnicity category, which includes all races, and because people can select from more than one race.

Source: US Census Bureau 2005

3.1.1 Tribal Interests

Indian Trust Resources and Tribal Treaty Rights

The BLM, as a representative of the federal government, is responsible for maintaining a formal government-to-government relationship with federally recognized Indian tribes. This relationship, which has a very long-established history, is reiterated and clarified in the Executive Memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments, and Executive Order 13175. This relationship focuses on ensuring that the rights and interests of tribes are considered and protected when federal agencies act.

Indian trust resources and tribal treaty rights are legal interests in assets held in trust by the federal government for federally recognized Indian tribes or nations or for individual Indians. These assets can be real property, physical assets, or intangible property rights. No applicable treaty rights have been identified within the WFO planning area.

The WFO planning area lies within the traditional territory of the Northern Paiute and, to a lesser extent, of the Western Shoshone peoples. Historically, these tribes subsisted on hunting, fishing, and gathering seeds and roots. Federally recognized tribes within the planning area include the Battle Mountain Band, Fallon Paiute-Shoshone Tribe, Fort McDermitt Tribe, Lovelock Paiute Tribe, Pyramid Lake Paiute, Winnemucca Tribe, and the Summit Lake Paiute Tribe.

The tribes generate income from a number of sources. The main economic source for the Battle Mountain reservation is a smokeshop/convenience store, which employs about six people. The Battle Mountain Filter Service

Company, a newly formed tribal business, cleans filters for the nearby mines and employs three people. The Fallon Reservation also operates a smoke shop, and has almost 3,000 allotted acres of irrigable land in agricultural production. On the Fort McDermitt reservation, tribal members produce and sell crafts and operate a smoke shop. Additional income is generated by the production of forage hay and hay land and grazing leases. Lovelock tribal members operate a smoke shop and are employed in agricultural practices, mining, and retail commercial establishments. The Pyramid Lake reservation economy is supported by livestock and hay production, construction and repair services, recreational use related to the Pyramid Lake, and tribal government. Businesses include a smoke shop, a campground, the Pyramid Lake Marina, and a leased sand and gravel enterprise operated by the tribe in Wadsworth. The Winnemucca Colony covers 360 acres about one mile from the city of Winnemucca. Residents are primarily Paiute Indians who moved from the Fort McDermitt Reservation and some Shoshone. Approximately 39 of the 61 reservation residents are members of the labor force, and per capita income of Winnemucca Colony residents is $1,600. The Summit Lake reservation generates income from the sale and leasing of grazing permits, including the cultivation of hay, in addition to revenues generated by fishing at Summit Lake, which is open only to tribal members (US Department of Commerce 2005).

3.2 Income and Poverty Level

Table 3-2 provides income statistics for planning area counties and Nevada. All counties, except Washoe, have a lower per capita income than the Nevada average. All counties, except Washoe and Humboldt, also have lower median household incomes than Nevada, including the planning area's average. Pershing County has the largest percent (11.4) of population living in poverty.

The US Census Bureau uses a set of money income thresholds that vary by family size and composition to determine which families are living in poverty. If a family's total income is less than its threshold, then that family, and every individual in it, is living in poverty. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index. For example, in 2000, the average estimated poverty threshold for an individual in the US was an annual income of $8,787 and for a four-person household it was $17,601. The US Census Bureau estimates that approximately 8.7 to 11.4 percent of county populations in the planning area were below the poverty line in 2000. The percentages in Lyon (10.4 percent) and Pershing (11.4 percent) Counties exceeded the state average of 10.5 percent (US Census Bureau 2005).

Table 3-2
County Income and Poverty Level (2000)

County	Median Household Income	Per Capita Income	Population Living in Poverty (2000)
Nevada	$44,581	$21,989	10.5%
Churchill	$40,808	$19,264	8.7%
Humboldt	$47,147	$19,539	9.7%
Lyon County	$40,699	$18,543	10.4%
Pershing	$40,670	$16,589	11.4%
Washoe	$45,815	$24,277	10.0%
Average Total	**$43,534**	**$19,902**	**10.5%**

Source: US Census Bureau 2005

3.3 PROTECTION OF CHILDREN

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (Executive Order 13045, 62 Federal Register 19885), states that each federal agency shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks. These are risks that are attributable to products or substances that the child is likely to come into contact with or to ingest.

SECTION 4
CONCLUSION

4.1 SUMMARY OF SOCIOECONOMIC CONDITIONS AND SOCIAL CHARACTERISTICS

BLM lands are typically in areas of low population densities (BLM 2000b). As identified in Section 2.1.1, Nevada's population is growing faster than any state in the nation. Towns and cities are expanding rapidly, resulting in increased pressures on federal lands. As the population increases, a higher potential for conflicts among uses may also exist. Between 1990 and 2000 the population of the counties in the WFO planning area on average grew at approximately the same rate as the state, with the counties closest to the employment centers of Carson City, Fernley, and the Reno-Sparks area (Lyon, Washoe, and Churchill Counties) growing the most. Roughly 12 percent of lands in these three counties is managed by the WFO, but most of the BLM's lands in the WFO planning area lie within Humboldt and Pershing Counties. Growth in the planning area is projected to continue at a slower rate than that of the state, with the exception of Pershing County, which contains 35 percent of WFO-managed lands and is expected to double between 2000 and 2020. The population of Humboldt County, in which about 53 percent of WFO lands are located, is projected to decline.

As populations have increased, business opportunities also have expanded, and the economy of the planning area has begun to change from being agriculturally based to being more service and amenity based, particularly in Churchill and Washoe Counties. As the baby boom generation approaches retirement, the demands on public land for recreational activities continue to increase. Recreational visits to public lands have increased by 40 percent over the past 10 years and this trend will likely continue (DOI 2004).

Mining has continued to play an important role in the economy of the planning area. The mining industry in the WFO suffered in the late 1990s with the decline of gold prices, forcing employment reductions and temporary closure of several mines. As gold prices have increased in recent years, production activity and employment in mining also has begun to

recover. Demands for renewable energy, power plants, and manufacturing plants are also increasing, as is evident by the recent plans to develop the Granite Fox power plant outside of Gerlach, the Nevada Cement Company by Loveland, and the new trailer manufacturing plant in Humboldt County.

4.2 Summary of Economic Influence of BLM-managed Lands

With almost 83 percent of lands in Nevada under federal ownership, Nevada's economy is affected by BLM land management decisions. Humboldt County, which has the largest percentage and total acreage of land under federal ownership, has the greatest opportunity for effect. Whereas Lyon County, which is composed of approximately 67 percent federal land and has the lowest total acreage of federal lands within the WFO planning area, will have smaller impacts.

The recreation, mining, and agricultural sectors are dominant economic interests represented on BLM-administered lands within the WFO planning area in Nevada; the forestry and timber sectors have a minimal economic presence on WFO lands.

The high percentage of BLM lands within the planning area counties has made the WFO planning area a highly desirable recreation area for activities, including boating, fishing, hiking, hunting, and mountain biking. The counties attract both local visitors and those from other counties. As a result, local economies receive economic benefit from recreation activities that occur nearby through recreation and use fees that are returned to the state and through visitor expenditures in the traveler accommodations industry and for other goods and services. Nevada has the highest per capita receipts generated from travel expenditures within the US, and the traveler accommodation industry is projected to be the fastest-growing employment sector in the state. With the rising popularity of outdoor recreation and the demand for use of federal lands, visitor use of public lands within the WFO and local economic activity also can be expected to increase. While most recreational use on public lands does not require a permit, some activities (such as the Burning Man Festival) are permitted activities that provide recreation opportunities to several thousands of people while generating significant revenue for the WFO.

Nevada ranked second in the US in terms of value of overall nonfuel mineral production in 2003 (excluding oil, gas, coal, and geothermal). Nevada's production of gold helped make the US the third leading gold producer in the world in 2003 (Nevada Bureau of Mines and Geology 2003). Numerous commodities are produced in the state, several of which occur on BLM-administered lands. The influence of the mining sector in Humboldt and Pershing Counties makes them economically vulnerable because of their lack of diversity. Nevada has been identified as an economically vulnerable state due to its dependence on minerals (BLM 2000b).

Grazing revenues are found to be the greatest in those counties with the highest proportion of BLM land, and northern Nevada has been identified as one of these areas (BLM 2000b). These areas typically have low population densities and low per capita income (Sections 2.1 and 2.2). Grazing is most important to the economies in areas that are agriculturally dependent, very rural, and not economically diverse. With three of the five planning area counties (Lyon, Humboldt, and Churchill) among the top five generators of agricultural sales, the economies of these counties would be most likely to be affected by grazing management decisions within the WFO.

SECTION 5
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APPENDIX I

REASONABLE FORESEEABLE DEVELOPMENT SCENARIOS

Appendix I
Reasonable Foreseeable Development Scenarios (Minerals) (From the Winnemucca RMP Mineral Potential Report - BLM 2006a)

As part of the Winnemucca RMP Process a Mineral Potential Report was developed to analyze existing and potential development of mineral resources. This appendix includes reasonable development scenarios from that report for oil and gas resources, geothermal resources and solid leasable minerals.

I.1 Oil and Gas Reasonably Foreseeable Development Scenario

I.1.1 Development Potential Rankings

Development potential is not a prediction of precise future drilling locations and should not be used as a gauge of future interest or lack of interest in leasing. Oil and gas companies have numerous sources of proprietary data not available to the BLM (such as seismic data or internal geologic reports), which they use prior to making financial commitments to lease or drill. Therefore, even though an area is rated as very low development potential at this time with a low probability for any wells being drilled, a company may still be interested in leasing that area, should it be made available.

The analysis of potential for development of oil and gas resources within the Planning Area is based on bedrock geologic mapping, geophysical data and 47 oil and gas tests drilled in the Planning Area (**Table I-1**). The areas with potential for the occurrence of oil and gas resources within the Planning Area are shown on **Figure I-1**.

Figure I-1 is a map depicting development potential for oil and gas resources within the Planning Area. On this map development potential ranges from moderate to very low. As with the occurrence potential, there are no areas of "high" development potential within the Planning Area. High development potential areas occur only within proven producing petroleum provinces or in areas with a significant number of hydrocarbon "shows". Areas of moderate development potential have a significant thickness of sedimentary section present that includes possible source and reservoir rocks. These areas correspond to the USGS (1995) play areas.

Within the Planning Area, areas having a low potential for development typically have a thin sedimentary section present. They may also have limited source rock potential because of shallow burial and/or limited reservoir potential. Areas of low potential are also used to designate areas where there is insufficient data available to analyze the potential. Areas of low potential occur adjacent to areas of moderate potential in the Tertiary basin of the Western Great Basin Province.

An area of very low development potential lacks source or reservoir rocks or is an area predominantly underlain by metamorphosed or intrusive terrane. Areas of very low potential have no sedimentary source rock section thought to be capable of generating oil or gas and/or very limited reservoir potential.

TABLE I-1

SUMMARY OF OIL AND GAS DRILLING ACTIVITY TO 2004

WINNEMUCCA FIELD AREA, NEVADA

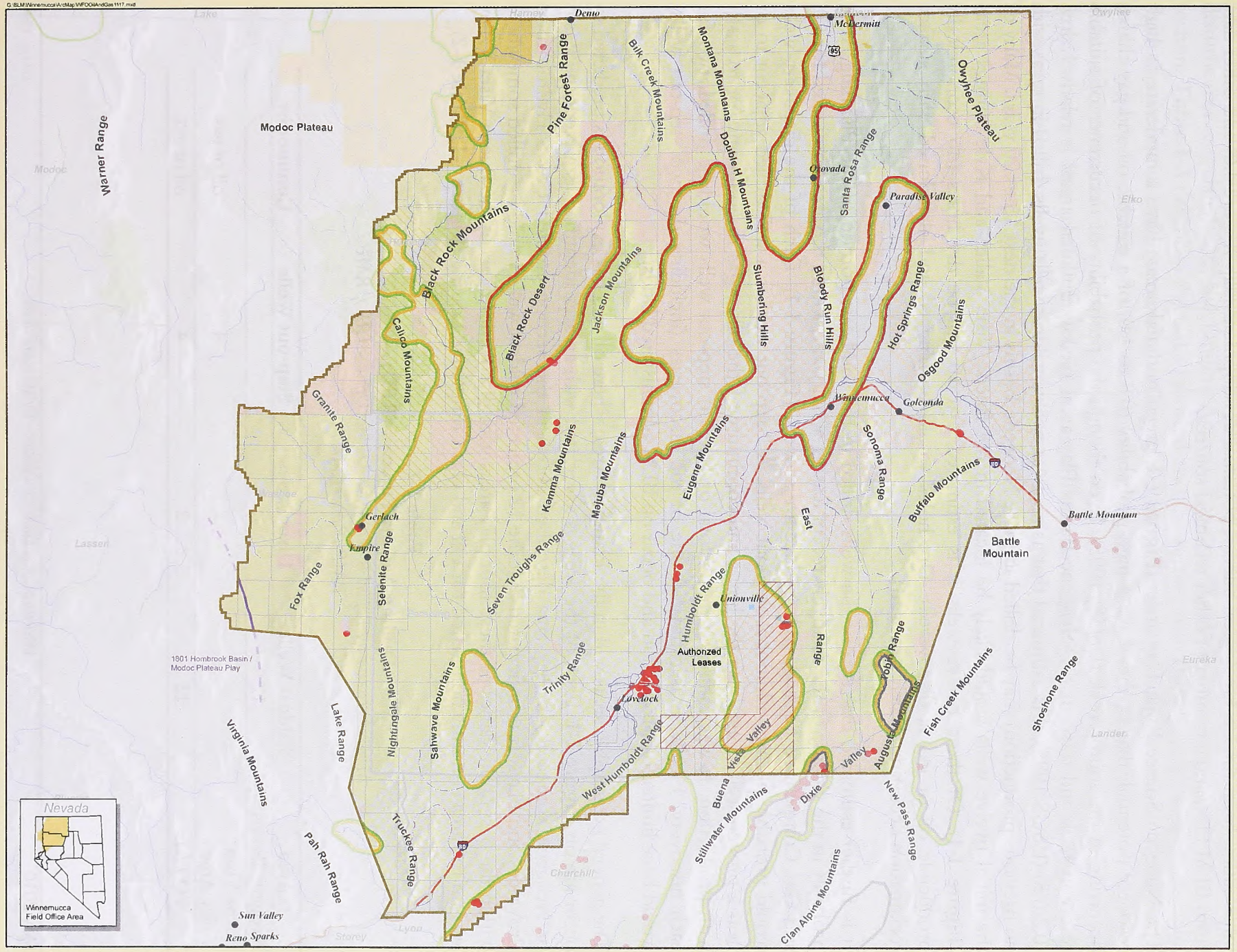
Operator Current Name	Lease Name	Name	Field Name	County Name	Permit #	Permit Date	Total Drilled	Date Spud	Date Completion	Date Last Activity
BLACK ROCK O&G CO	GOVT	1	WILDCAT	HUMBOLDT		11/23/1921	800	12/3/1921	12/30/1921	12/1/1998
EARTH POWER PROD	N17278	45-14	WILDCAT	HUMBOLDT		9/20/1982	3703	9/30/1982	1/19/1983	12/1/1998
HUMBOLDT ASSOC	ELLISON	2	WILDCAT	HUMBOLDT	383	6/16/1984	1020	6/26/1984	7/4/1984	12/1/1998
HUMBOLDT ASSOC	ELLISON	1	WILDCAT	HUMBOLDT	268	11/4/1979	986	11/14/1979	7/3/1984	12/1/1998
SUN EXPL & PROD CO	KING LEAR-FEDERAL	1-17	WILDCAT	HUMBOLDT	347	4/7/1983	7931	4/17/1983	6/4/1983	12/1/1998
W PACIFIC RR CO	SULPHUR M.P.	474.67		HUMBOLDT		1909	970			
ARCO OIL & GAS CORP	ARCO TOBIN UNIT	1	WILDCAT	PERSHING	408	10/28/1984	2065	11/7/1984	12/6/1984	12/1/1998
CHEVRON U S A INC	KYLE-FEDERAL	84-2	WILDCAT	PERSHING		9/7/1980	2104	9/17/1980	10/11/1980	12/1/1998
EVANS BARTON LTD	KYLE SPRING	11-42A	WILDCAT	PERSHING	838	7/10/2001	607	7/24/2001		8/10/2004
EVANS BARTON LTD	KYLE SPRING	12-13D	WILDCAT	PERSHING	759	9/21/1995	1000	10/1/1995	6/1/1997	1/14/2004
EVANS BARTON LTD	KYLE SPRING	12-13	WILDCAT	PERSHING	730	8/2/1994	1162	8/12/1994	8/25/1994	1/23/2003
EVANS BARTON LTD	KYLE SPRING FED	11-14	WILDCAT	PERSHING	791	10/27/1996	2633	11/6/1996	6/1/1997	1/14/2004
EVANS DAVID M	KYLE SPRING	12-13	UNNAMED	PERSHING		10/27/1996	230	11/6/1996	11/6/1996	8/20/2003
EVANS DAVID M	KYLE SPRING FED	11-43	WILDCAT	PERSHING	821	7/13/1998	868	9/23/1998	12/20/2002	9/24/2004
EVANS DAVID M	KYLE SPRING FED	11-23	WILDCAT	PERSHING		5/12/1998	2020	8/1/2000	8/9/2000	5/30/2003
GETTY OIL COMPANY	FEDERAL	44-10	WILDCAT	PERSHING		3/3/1981	7964	3/13/1981	6/27/1982	12/1/1998
GETTY OIL COMPANY	FEE	14-22		PERSHING		3/3/1979	500	3/13/1979	3/14/1979	11/2/2001
GETTY OIL COMPANY	FEE	18-24		PERSHING		3/1/1979	500	3/10/1979	3/12/1979	11/2/2001
GETTY OIL COMPANY	FEE	17-24		PERSHING		2/28/1979	500	3/9/1979	3/10/1979	11/2/2001
GETTY OIL COMPANY	FEE	13-26		PERSHING		2/14/1979	500	2/24/1979	3/8/1979	11/2/2001
GETTY OIL COMPANY	FEE	6-6	WILDCAT	PERSHING		3/5/1979	500	3/15/1979	3/15/1979	12/1/1998
GETTY OIL COMPANY	FEE	15-21	WILDCAT	PERSHING		3/4/1979	500	3/14/1979	3/15/1979	12/1/1998
GETTY OIL COMPANY	FEE	16-22	WILDCAT	PERSHING		3/2/1979	500	3/12/1979	3/13/1979	12/1/1998
GETTY OIL COMPANY	FEE	10-34	WILDCAT	PERSHING		2/16/1979	500	2/26/1979	2/26/1979	12/1/1998
GETTY OIL COMPANY	FEE	11-36	WILDCAT	PERSHING		2/4/1979	500	2/14/1979	2/16/1979	12/1/1998
GETTY OIL COMPANY	FEE	5-8	WILDCAT	PERSHING		2/3/1979	500	2/13/1979	2/13/1979	12/1/1998
GETTY OIL COMPANY	FEE	4-16	WILDCAT	PERSHING		2/2/1979	500	2/12/1979	2/12/1979	12/1/1998
GETTY OIL COMPANY	FEE	7-4	WILDCAT	PERSHING		2/2/1979	500	2/12/1979	2/13/1979	12/1/1998
GETTY OIL COMPANY	FEE	3-10	WILDCAT	PERSHING		2/1/1979	500	2/11/1979	2/11/1979	12/1/1998
GETTY OIL COMPANY	FEE	1-12	WILDCAT	PERSHING		1/28/1979	500	2/7/1979	2/10/1979	12/1/1998
GETTY OIL COMPANY	FEE	2-2	WILDCAT	PERSHING		1/18/1979	500	1/28/1979	2/2/1979	12/1/1998
GETTY OIL COMPANY	FEE	8-34	WILDCAT	PERSHING		1/16/1979	500	1/26/1979	1/29/1979	12/1/1998
GETTY OIL COMPANY	FEE	9-34	WILDCAT	PERSHING		1/15/1979	500	1/25/1979	1/26/1979	12/1/1998
GETTY OIL COMPANY	FEE	12-26	WILDCAT	PERSHING		1/6/1979	400	1/16/1979	2/23/1979	12/1/1998
GETTY OIL COMPANY	IGH	2	COLADO	PERSHING		10/20/1979	1165	10/30/1979	11/18/1979	12/1/1998
OESI POWER		46-28M	HUMBOLDT	PERSHING	284	9/23/1991	260	10/3/1991	10/15/1991	12/1/1998
OUIDA OIL CO	DIXIE	1	WILDCAT	PERSHING	743	2/17/1995	4536	2/27/1995	5/24/1995	12/1/1998
PHILLIPS PETRLM CO	CAMPBELL	E-2	HUMBOLDT	PERSHING		12/27/1978	8061	1/6/1979	10/1/1979	12/1/1998
PHILLIPS PETRLM CO	CAMPBELL	E-1	WILDCAT	PERSHING		10/23/1977	1848	11/2/1977	12/10/1977	12/1/1998
TREGO WELL BLACK R DES	TREGO WELL			PERSHING			1500			
AMOR IV CORPORATION		32A-21	SAN EMIDIO DESERT	WASHOE		10/9/1988	1000	10/19/1988	10/26/1988	12/1/1998
CAITHNESS POWER		32-5	STEAMBOAT SPR	WASHOE	79	10/8/1987	3000	10/18/1987	11/8/1987	12/1/1998
CHEVRON GEOTHERMAL		28-32		WASHOE	67	3/11/1986	3031	3/21/1986	5/12/1986	12/1/1998
PHILLIPS PET-GULF	STEAMBOAT	1	WILDCAT	WASHOE		5/26/1979	3075	6/5/1979	7/16/1979	12/1/1998
PHILLIPS PETRLM CO	COX	I-1	WILDCAT	WASHOE		3/22/1981	3471	4/1/1981	7/1/1981	8/20/2003
SUNOCO ENRGY DEV CO	HOLLAND LIVESTOCK	1-2-FR		WASHOE		2/6/1979	5210	2/16/1979	4/26/1979	2/26/2002
SUNOCO ENRGY DEV CO	HOLLAND LIVESTOCK	1-15G	WILDCAT	WASHOE		12/7/1978	5871	12/17/1978	2/20/1979	12/1/1998

Notes:

Well Data compiled from: P I Dwights Winn FO RMP Washoe, Humboldt, Pershing 2/2005

NBMG, 2001, Oil and Gas Wells Drilled in Nevada (website: http://www.nbmg.unr.edu/lists/oil/oil.htm)

File: Winnemucca RMP\Project No 5540015\Draft reports\Tables for Min Occur Report\Winne Oil-Gas well data



Oil and Gas Wells, Leases and USGS Plays
Mineral Assessment Report
Winnemucca Field Office
RMP Planning Area, Nevada
Figure I-1

I.1.2 Drilling Activity Forecast

In order for the BLM to be able to analyze the effects of oil and gas leasing, and possible impacts related to exploration, development, and cumulative effects, it is necessary to estimate how many wells industry might drill in the next 15 to 20 years within the WDO Planning Area. The following RFD scenario has been developed using historical oil and gas development, and oil "play" information from the US Geological Survey, potential development map (Figure 4.6) and other data from BLM files, and a number of other technical sources.

The Neogene Source Rock Play areas (**Figure I-1**, green outlined areas) have a moderate to high resource potential; that is, they have a high probability (0.8 to 1.0) of a suitable oil and gas charge occurring in the source rock (USGS, 1995). Even though the probability of occurrence of suitable reservoir rock and traps in the Neogene Basins Play areas (yellow outlined areas) is relatively low (0.2-0.5) (USGS 1995), it is estimated that as many as twelve wildcat wells (wells drilled in areas with no previous production) may be drilled in these Neogene Basins in the next 15 to 20 years. Many of the initial twelve wells would likely be located in the Buena Vista Valley and Kyle Springs areas (**Figure I-1**). Of these twelve wells it is estimated that 10 will be dry holes (no economically producible oil or gas is discovered). Dry holes would be plugged and abandoned with surface reclamation occurring shortly afterward.

It is further estimated that two of the wells drilled in the southeast portion of the Planning Area, probably in the vicinity of the relatively recent leasing activity and within the area nominated for Oil and Gas Competitive Leasing, will produce a discovery **(Figure I-1)**. Each of the discovery wells would probably prompt additional step-out wells. A "step-out well" is a well drilled adjacent to or near a proven well to establish the limits and continuity of the oil or gas reservoir and/or to assist with production. It was estimated that a total of four (4) step-out wells would be drilled, two for each discovery. Finally, it is estimated one of the discoveries (including the two step-out wells) would have limited oil production and occur on BLM administered lands.

The general geographic areas within the Planning Area, where oil and gas exploration is predicted to occur are on **Figure I-1**. Each of the areas is associated with an area identified as a Neogene Basin or Neogene Source Rock Play area described above in the section entitled USGS Hydrocarbon Provinces and Plays. It is anticipated that the 12 projected wildcat wells would be drilled somewhere within the basin boundaries of these four play areas with discoveries likely in the Buena Vista Valley area (in the area currently nominated for Oil and Gas Completive Leasing (**Figure I-1, Table I-2**).

Table I-2
Drilling Activity Forecast (RFD)
Mineral Assessment Report Winnemucca District Office – EIS / RMP
RMP Planning Area

Area	Wildcat Wells	Discoveries	Step-out Wells	Commodity
Neogene Basins	12			
Buena Vista Valley Area		2	4	oil or gas
TOTAL	**12**	**2**	**4**	oil or gas

I.1.3 Surface Disturbance Impacts

Construction of temporary road access and a drilling location for each wildcat well may disturb about 6 acres for each wildcat well, or 72 acres for all the wildcat wells. No discoveries of commercial quantities of oil or gas are anticipated during the next 10 to 15 years.

This section of the Reasonable Foreseeable Development Scenario describes the anticipated disturbances associated with the Drilling Activity Forecast (**Table I-2**) predicted in the preceding section. **Table I-3** describes the tasks involved and the surface disturbances that are likely to result from the successful and unsuccessful drilling of wildcat wells, development or step-out drilling, and field production activities of the Winnemucca RFD drilling forecast. The number of acres of disturbance estimated relies on data derived from wildcat well drilling elsewhere within the Planning Area and on existing small scale production from fields developed elsewhere in Nevada. Reclaimed acres (regraded and seeded) are assumed to be stabilized after 2 years.

Table I-3
Estimated Cumulative Impacts of Oil and Gas Exploration and Development (RFD)
Mineral Assessment Report Winnemucca District Office – EIS / RMP
RMP Planning Area

Type of Disturbance	Required Tasks		Acres Disturbed Pre-Site Reclamation	Acres Disturbed Post-Site Reclamation
Ten (10) Unsuccessful Wildcat Wells	Well Site - Maximum area of 3.6 acres (about 380 ft. x 400 ft.) cleared per well pad.		35	0 (2 years)
	Access Roads – 40 ft. width x lineal footage (3.6 miles or 18,480 lineal feet) or about 17 acres per well site.		170	0 (2 years)
One (1) Well Drilled with a Gas Field Discovery Two (2) Step-out Wells Drilled with No Production because of distance to Gas Transmission Lines	- Gas field would be discovered in the Buena Vista Valley west of the East Range (Field would be approximately 3 square miles in surface area). - Compressor stations would normally be necessary along the feeder pipeline route but the distance to the main transmission line is too long, and the field is shut in. - Condensate, gas, and water separation would occur at the well sites, during production testing. Water disposal would be into a lined pit at the surface or water would be injected into the subsurface through a dry hole converted into a water disposal well. Gas would be flared. Condensate would be shipped by truck (1 truck every 4 days).		Not Applicable	Not Applicable
	1 discovery well - 2 additional step out wells per discovery well	Well Site - Maximum area of 3.6 acres (about 380 ft. x 400 ft.) cleared per well pad.(3 wells total)	10.5	3.6 (2 years)
		Access Roads – 40 ft. width x lineal footage. • 1 at 17 acres (3.6 miles long) • 2at 7.3 acres (1.5 miles long)	31.6	16.7 (2 years)
		Pipelines – no production, none required - Trunk lines to existing transmission lines – 25 ft. width x lineal footage (35 miles long). - Field gathering pipelines will follow access roads and no additional disturbance will result.	0	0 (2years)

Table I-3 (continued)
Estimated Cumulative Impacts of Oil and Gas Exploration and Development (RFD)

Type of Disturbance	Required Tasks		Acres Disturbed Pre-Site Reclamation	Acres Disturbed Post-Site Reclamation
	- An oil field is possible in the Kyle Springs area - Field would be approximately 1 ½ square miles in surface area. - Oil would be transported by truck to refining facility. - Oil, gas, and water separation would occur at the well sites. Water disposal would be into a lined pit at the surface or water would be injected into the subsurface through a dry hole converted into a water disposal well. Gas would be used on lease to separate oil and water and to heat oil. Gas not used on lease would be reinjected into the formation for pressure maintenance or would be vented / flared to the atmosphere. If sufficient gas quantities are produced this gas may also be captured and sold. For this analysis all unused gas is assumed to be reinjected for pressure maintenance.		Not Applicable	Not Applicable
One (1) Oil Field Discovered and Brought into Small Scale Production	- 3 commercially productive wells (one discovery and two step-out wells)	Well Site - Maximum area of 3.6 acres (about 380 ft. x 400 ft.) cleared per well pad.	10.5	3.6 (2 years)
		Access Roads – 40 ft. width x lineal footage. • 1 at 17 acres (3.6 miles long) • 2 at 7.3 acres (1.5 miles long)	31.6	16.7 (2 years)
		Pipelines - Field gathering pipelines will follow access roads and no additional disturbance will result.	0	0

I.2 GEOTHERMAL REASONABLY FORESEEABLE DEVELOPMENT SCENARIO

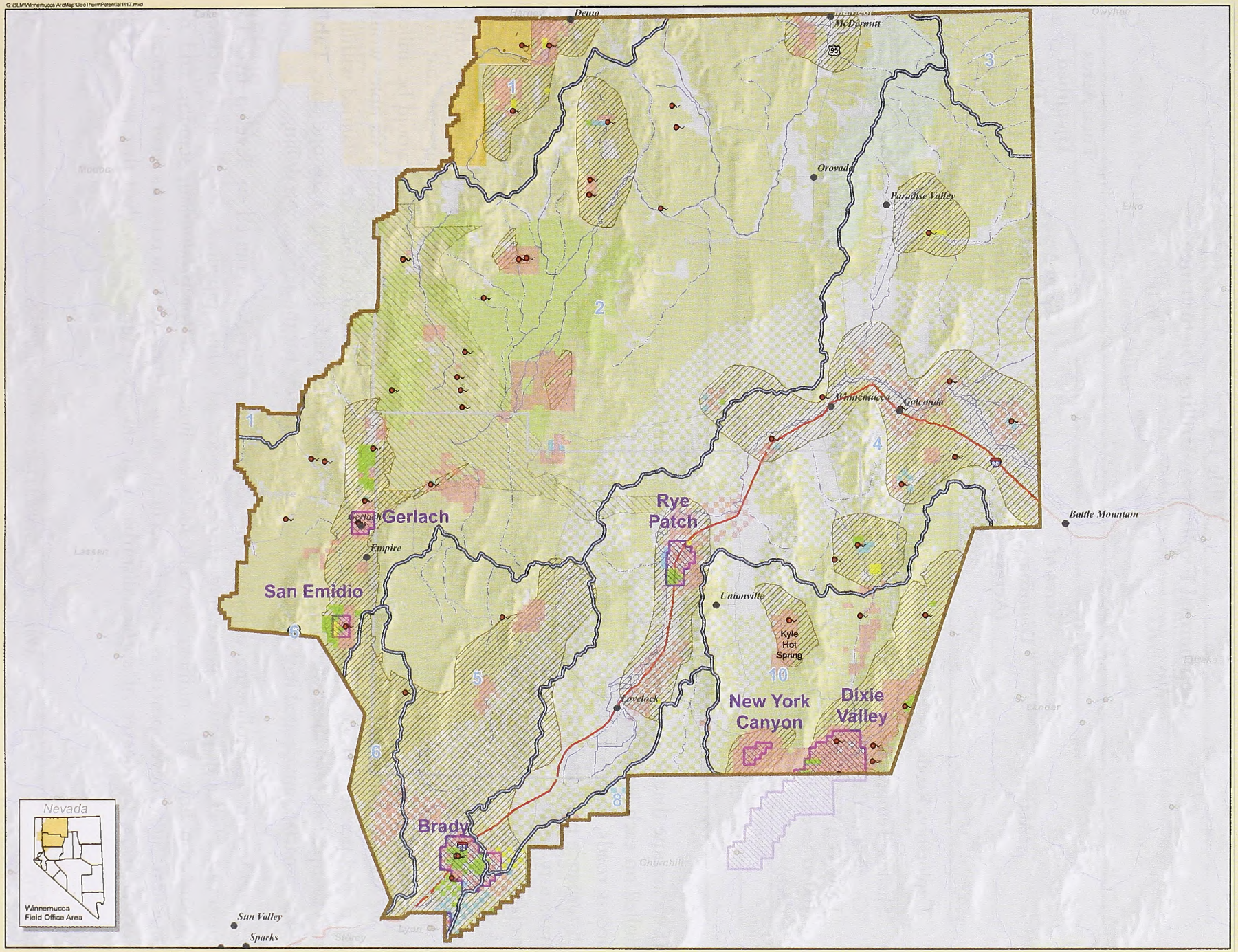
I.2.1 Introduction

In 2000, the DOE's Office of Energy Efficiency and Renewable Energy (EERE) initiated its *GeoPowering the West* program in an effort to dramatically increase the use of geothermal energy in the western United States (Geothermal-biz.com 2005 and U.S.DOE 2005). The goals of *GeoPowering the West* include doubling the number of states producing geothermal electricity to 8 by 2006, reducing the cost of geothermal power to 3 to 5 cents per kilowatt hour by 2007, and ultimately providing seven million homes with geothermal energy by 2010. In addition, in 1997, the Nevada legislature established a renewable energy portfolio standard. This standard requires that up to 15% of the total electricity sold would be derived form renewable energy resources. Considering the high potential for further geothermal development in Nevada, it seems quite likely that the state will experience substantial growth in the geothermal energy production industry. BLM Management action and scrutiny will be necessary to provide for future renewable energy growth while protecting sensitive resource values. Development of geothermal resources on federal lands, as described in Section 2.0, is subject to review under NEPA.

The following Reasonably Foreseeable Development Scenario (RFDS) for geothermal resources was developed in the *Geothermal Resources Leasing Programmatic EA* (BLM, 2005) in order to provide a reasonable estimate of anticipated exploration, development and production activity that might be expected over the next 20 years of developing geothermal resources of the Planning Area. Once the anticipated level of activity is determined the RFDS estimates the potential cumulative impacts of surface disturbance and other environmental impacts associated with geothermal development.

Initially the RFDS looks at the location of KGRAs, historical leasing patterns and geologic models to identify favorable and prospective areas for developing geothermal energy within the planning area. The *Geothermal Resources Leasing Programmatic EA* (BLM, 2005) identified at least three areas of varying potential within the Planning Area. These include (**Figure I-2):** 1) the six Known Geothermal Resource Areas (KGRAs); 2) areas with pending lease applications (typically in the vicinity of the KGRAs); and 3) areas identified by the geologic models as being Prospectively Valuable Areas (PVAs) with respect to geothermal development. In all, the largest area of potential within the Planning Area is included within the 13 PVAs that encompass approximately 1.9 million acres and include the six KGRAs (**Figure I-2**).

The Reasonably Foreseeable Development Scenario presented here envisions that over the next 20 years, exploration drilling would occur on all geothermal leases, some of which lead to more detailed exploration drilling, and a few of which lead to the discovery of geothermal resources capable of developing five 15 Megawatt Geothermal Power Plants. The 15-megawatt power plant is used as a typical size to estimate the amount of disturbance that could be involved for the RFD scenario. These calculations are meant to be used as an indicator of the impacts involved, not as a cap or bound on the size of any geothermal power plant development. The discussion below looks at the potential surface disturbances from this scenario, and then the other potential environmental impacts from development of the resources.



WFO Boundary
Interstate
State Highways
Local Roads
Perennial Stream
Internittent Stream
County Boundanes

Surface Ownership

BLM Land
National Forest
Wilderness Area
Wildlife Refuge
National Conservation Area

Geothermal Assessment Areas

Known Geothermal Resource Area (KGRA)
Prospectively valuable areas as modified from Hoops 1991
Unleased lands within a KRGA
Authorized Leases
Cancelled Leases
Closed Leases
Pending Leases (lease data as of 5/06)
Hot Springs
Hydrographic Basins
As defined and numbered by the NV Division of Water Planning:

1 Northwest Region
2 Black Rock Region
3 Snake River Basin
4 Humboldt River Basin
5 West Central Region
6 Truckee River Basin
8 Carson River Basin
10 Central Region

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0 Miles 25

Geothermal Potential Map
Mineral Assessment Report
Winnemucca Field Office
RMP Planning Area, Nevada
Figure I-2

I.2.2 Surface Disturbance

Exploration: During the exploration stage, surface disturbance is minimal with few adverse impacts until the decision is made to drill one or more exploration wells. An exploration-drilling impact evaluation is shown below (**Table I-4**) which lists the maximum degree of anticipated surface disturbance expected during this phase.

Table I-4
Geothermal Exploration Drilling Disturbance
Mineral Assessment Report Winnemucca District Office – EIS / RMP
RMP Planning Area

Activity	Acres of Disturbance (Acres)	Units per Lease	Total Acres Disturbed Per Lease	Total Acres Disturbed with Two Leases Explored Per Year
Exploration Roads	1 acre/mile	3, ½ mile roads	1.5	3
Shallow Temperature Gradient or Exploration Flow Test Well (several 100 to several 1000 feet deep)	1 acre/drill site	3 drill sites	3.0	6
		TOTAL	**4.5**	**9**

If we assume that as many as three temperature gradient and/or exploration flow test wells would be drilled on each lease. This would disturb as much as three acres (one acre per drill site). Three new access roads, each a half-mile in length would disturb an additional 1.5 acres. Therefore, the total disturbance per lease is approximately 4.5 acres (**Table I-4**). Exploration drilling surface impacts are transitory in that unsuccessful exploration programs are abandoned and the surface impacts are reclaimed usually within a two year period. Successful exploration programs lead on through the development process frequently using the surface disturbances created during exploration for some of the development activities. To spite the fact that there may be numerous leases on which exploration drilling takes place, they would not all be drilled at the same time. If we assume that over the next 20 years 40 geothermal leases are drilled, a total of 120 exploration holes would be drilled. If we assume that these holes would be drilled evenly over the entire 20 year period, six holes would be drilled per year. If we further assume that unsuccessful exploration holes are reclaimed within a two year period, then there would never be more than 12 drill pads disturbed at any one time. **Table I-4** summarizes anticipated individual and cumulative impacts for the exploration drilling.

Development: The following describes the construction activities required to develop five, 15-megawatt electrical power generating plants, associated wells, pipelines, roads, and electrical transmission lines. The number of wells includes those used for production, standby, and re-injection. Since development is likely to occur in about 5-megawatt increments over a period of several years, the degree of surface disturbance at any given time is less than that presented in

Table I-5. Mitigation and enhancement would have occurred in some portions of the lease before additional portions of the lease are developed.

Table I-5
Surface Disturbance From Construction of a Geothermal Power Facility
Mineral Assessment Report Winnemucca District Office – EIS / RMP
RMP Planning Area

Facility or Feature	Facility or Features/Plant	Disturbed Acres Per Feature or Facility	Disturbed Acres for Overall Power Plant Infrastructure	Total Disturbed Acres for 5 Power Plant Facilities
Power Plant	1	30	30	150
Wells	6	5	30	150
Cooling Pond	1	5	5	25
Pipelines	3	5	15	75
Access Road (spurs)	3	7	21	105
Mainline Road	1	10	10	50
Transmission Line	1	10	10	50
TOTAL			**121**	**605**

Schedule: The various time frames for a typical geothermal project are estimated as follows:

Exploration: 1 to 5 years
Development: 2 to 10 years
Production: 10 to 30 years (depending on construction time)

Up to six production or injection wells could be drilled on each lease. Each well pad would disturb approximately 5 acres, and a mainline road would disturb approximately 10 acres. Each of three pipelines would disturb approximately 5 acres and each of three access roads would disturb approximately 7 acres. A power plant would occupy approximately 30 acres, a disposal pond would disturb approximately 5 acres, and a 25-mile transmission line would disturb approximately 10 acres. Total surface disturbance for each plant for this phase of operation would total approximately 121 acres (**Table I-5**). Again, not all power plants would be constructed at the same time, and construction would likely be staged in 5-megawatt increments.

Until actual geothermal exploration and development begin, it is difficult to quantify the resource potential and possible future intensified production measures necessary to develop the resources. In order to assess environmental impacts resulting from an action as general as geothermal exploration, development, and production, it is necessary to assume given levels of intensities of such development.

I.3 SOLID LEASABLE MINERAL POTENTIAL

The potential for development of leasable industrial rocks and mineral resources of the WDO Planning Area are summarized below. These include the following: sodium minerals (including salt), and sulfur.

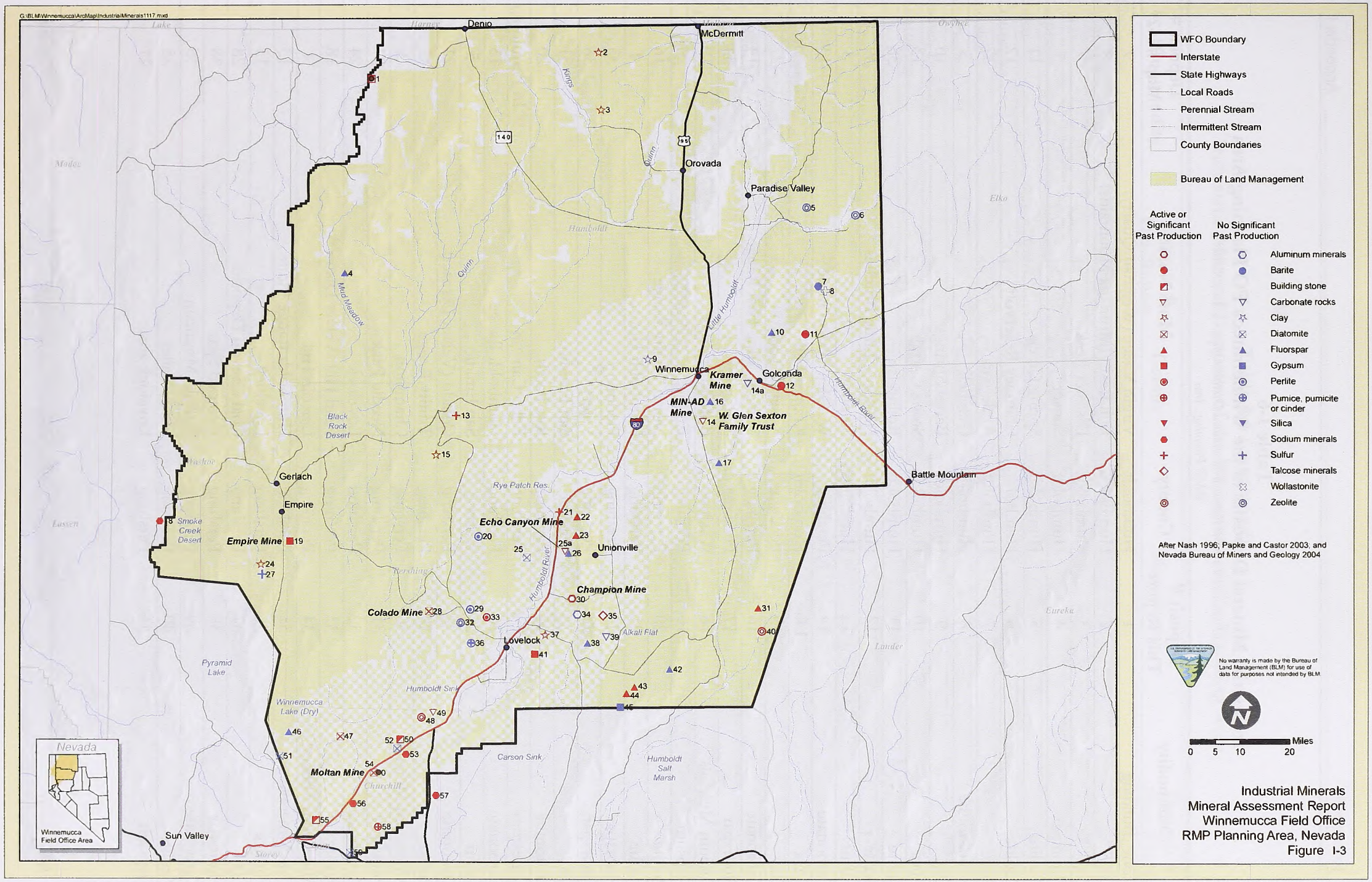
I.3.1 Sodium Minerals (salt)

There is good potential for the development of salt deposits in the Planning Area. The salt deposits occur in the playas of which the Planning Area has several. Although there is no current production of salt in the Planning Area, former salt mines include White Plains, Carson Sink, and Eagle Marsh in Churchill County and Buffalo Springs in Washoe County (Nash, 1996) (**Figure I-3, Table I-6**).

There are several mines that produced sulfur as a by product of gold and/or silver ores in the Planning Area. These include Sulfur in Humboldt County, Humboldt House (also known as Imlay) in Pershing County, and San Emidio in Washoe County (Papke and Castor, 2003; Tingley, 1998). Due to the high operating cost necessary for their development, and a technology generally incompatible with heap leach gold recovery operations at large gold mining operations, it is not likely that further large scale development of secondary sulfur mineral deposits will occur in Planning Area.

I.3.2 Sulfur

There is low potential for the development of fumarole-related, sulfur deposits in the WDO Planning Area. This is because fumarole environments have been thoroughly prospected for gold-silver-mercury deposits. Undiscovered deposits within 200 meters of the surface are predicted to either be small or buried by younger alluvium. Fumarole sulfur deposits tend to be small in size and can be rich in metals that are costly to remove. An economic deposit must be near an efficient transportation route (Nash, 1996).



Industrial Minerals
Mineral Assessment Report
Winnemucca Field Office
RMP Planning Area, Nevada
Figure I-3

Table I-6
Industrial Mineral Deposits of the Winnemucca FO Planning Area

Mineral Assessment Report Winnemucca District Office – EIS / RMP
RMP Planning Area

Commodity	Deposit # This Report	County	Mine Name	Deposit # Map #142*
Stone, Building	1	Humboldt	Virgin Valley (Wegman Quarry)	9
Clay	2	Humboldt	Bull Basin (Montana Mountains)	8
Clay	3	Humboldt	Disaster Peak	9
Fluorspar	4	Humboldt	Sunset	7
Zeolite	5	Humboldt	Spring Creek	11
Zeolite	6	Humboldt	Chimney Reservoir	12
Barite	7	Humboldt	Anderson	37
Wollastonite	8	Humboldt	Getchell	3
Clay	9	Humboldt	Barret Springs	10
Silica	10	Humboldt	Stone Corral	13
Barite	11	Humboldt	Redhouse	38
Barite	12	Humboldt	Horton – Little Britches	39
Sulfur	13	Humboldt	Sulphur	3
Carbonate	14	Pershing	W. Glen Sexton Mine	13
Silica	14a	Humboldt	Kramer Hill Mine	none
Clay	15	Pershing	Rosebud Canyon	27
Carbonate	16	Pershing	Min-Ad Mine East Range	14
Fluorspar	17	Pershing	Mammoth	34
Sodium Minerals	18	Washoe	Buffalo Springs	19
Gypsum	19	Pershing	Empire	20
Perlite	20	Pershing	North Trinity Range	16
Sulfur	21	Pershing	Humboldt House	4
Fluorspar	22	Pershing	Piedmont	35
Fluorspar	23	Pershing	Valery	36
Clay	24	Washoe	San Emidio	31
Diatomite	25	Pershing	Rye Patch	20
Limestone	25a	Pershing	Echo Canyon	In Permitting
Carbonate	26	Pershing	Humboldt Range	15
Sulfur	27	Washoe	San Emidio	5
Diatomite	28	Pershing	Colado (Velvet District)	21
Perlite	29	Pershing	Trinity Range	17
Aluminum Minerals	30	Pershing	Champion	3
Fluorspar	31	Pershing	Needle Peak	37
Zeolite	32	Pershing	Lovelock	24
Perlite	33	Pershing	Pearl Hill (Velvet District)	18
Aluminum Minerals	34	Pershing	Lincoln Hill	4
Talc Minerals	35	Pershing	Humboldt Range Pinite	13
Pumice	36	Pershing	Lovelock	13
Clay	37	Pershing	Coal Canyon Deposits	28
Fluorspar	38	Pershing	Emerald Spar	38
Carbonate	39	Pershing	Buffalo Mountain	16
Zeolite	40	Pershing	Jersey Valley	25
Gypsum	41	Pershing	Lovelock area	21

Table I-6 (continued)
Industrial Mineral Deposits of the Winnemucca FO Planning Area

Commodity	Deposit # This Report	County	Mine Name	Deposit # Map #142*
Fluorspar	42	Pershing	Susie	39
Fluorspar	43	Pershing	Nevada Fluorspar	40
Clay	44	Pershing	New York Canyon (Stoker)	29
Gypsum	45	Pershing	Corn Beef	22
Silica	46	Washoe	Winnemucca Lake	18
Diatomite	47	Churchill	Nightingale (Truckee Range)	1
Zeolite	48	Churchill	Trinity Range	1
Carbonate	49	Churchill	Ocala	1
Stone, Building	50	Churchill	Trinity Range	1
Diatomite	51	Washoe	Nixon	26
Diatomite	52	Churchill	Trinity	2
Sodium Minerals	53	Churchill	White Plains	1
Diatomite	54	Churchill	Moltan Mine Desert Peak (Hot Spring Mountain area)	3
Stone, Building	55	Churchill	Black Mountain	2
Sodium Minerals	56	Churchill	Eagle Marsh	4
Sodium Minerals	57	Churchill	Carson Sink	3
Pumice	58	Churchill	Posalite	2
Diatomite	59	Churchill	Black Butte	4

* Deposit number from Nevada Bureau of Mines and Geology Map 142 Industrial Minerals of Nevada.

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APPENDIX J
TRAVEL MANAGEMENT PLAN CRITERIA FOR SUBSEQUENT ROAD AND TRAIL SELECTION, IDENTIFICATION, AND DESIGNATIONS IN 'LIMITED' OHV AREAS

APPENDIX J

Travel Management Plan Criteria for Subsequent Road and Trail Selection, Identification, and Designations in 'Limited' OHV Areas

Considerations of both social and physical elements will be used to define the criteria for a travel plan. All decisions made in this process would apply only to public lands managed by the BLM in the WDO and would recognize current valid existing rights. Decisions regarding OHV travel would be consistent with the BLM's National OHV Strategy.

In general, policy guidance in 8343.1 lists the OHV designation criteria that the BLM must meet in the travel planning process: 1) Cultural and Natural Resources—Designations must minimize damage to all cultural and natural resources; examples include historical and archaeological sites and soil, water, air, vegetation, and scenic values; 2) Wildlife—Designations must minimize harassment of wildlife and significant disruption of wildlife habitat; 3) Endangered Species—Special attention must be given to protect endangered or threatened species and their habitat; and 4) Wilderness—Designations must not impair the wilderness suitability of lands under consideration for inclusion in the wilderness system (WSAs).

In addition, the designation of roads, trails, and areas must take into account user access requirements, public safety, and conflict resolution.

The following criteria are used to assure adequate consideration for the requirements for each resource activity (such as minerals, range, and recreation): 1) Operational needs—Designations must consider user access requirements for inventory, exploration, use supervision, facilities maintenance, development, and extraction of public land resources; 2) State and private lands—Designations must consider the access and use needs for roads and trails within intermingled state and private lands; 3) Hazards—Designations must eliminate, mitigate, or minimize travel in areas of extreme natural or man-made hazards and separate uses in situations where safety factors present unacceptable risks (e.g., rifle ranges, open mines, and proposed campgrounds); and 4) Conflict resolution—Designations must assure full consideration of the multiple-use value of public lands.

The items listed below represent criteria that will be used to select, indentify, and designate "limited" areas in the WDO. It is not meant to be an all-inclusive list.

Social Aspects:

- Public demands;
- Historical uses;
- Existing rights-of-way;
- Permitted uses;
- Public access;
- Resource development;
- Law enforcement;
- Safety;

- Conflicts between existing or potential uses;
- Recreational opportunities;
- Local uses;
- Cultural uses;
- Economic use.

Physical Aspects:

- Terrain;
- Soils;
- Water and watersheds;
- Route connections;
- Special designations (AQCECs, WSAs);
- Demands for specific types of vehicle uses; and
- Manageability.

APPENDIX K

WILD HORSE AND BURRO STANDARDS AND GUIDELINES

United States Department of the Interior

Bureau of Land Management
Winnemucca Field Office
5100 East Winnemucca Boulevard
Winnemucca, Nevada 89445-2921
http://www.nv.blm.gov/Winnemucca/
775-623-1500 or wfoweb@nv.blm.gov

In Reply Refer To:
4700 (NV-020, NV-030)

Memorandum

To: State Director, Nevada

From: Gail Givens and Don Hicks
Field Manager, Winnemucca and Carson City

Subject: Recommendation to Approve Wild Horse and Burro Standards and Guidelines Developed by the Sierra Front-Northwest Great Basin Resource Advisory Council

The Sierra Front-Northwest Great Basin Resource Advisory Council has revised its proposed standards and guidelines in cooperation with BLM to assure conformance with the *Carson City Field Office Consolidated Resource Management Plan* (signed on May 11, 2001) as well as the *Sonoma-Gerlach* and *Paradise-Denio Management Framework Plans* (both signed on October 6, 1982) and the *Resource Management Plan for the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area and Associated Wilderness, and other Contiguous Lands in Nevada* (signed July 15, 2004), as outlined by 43 CFR 1610.5 and BLM Manual Section 1617.3 and as requested by Deputy State Director Meg Jensen on September 25, 2005.

The revised standards and guidelines (copy attached) developed for wild horses and burros by the Sierra Front-Northwest Great Basin Resource Advisory Council are technically adequate and are consistent and in conformance with the applicable land use plans. The standards and guidelines are also in conformance with the applicable laws, regulations and policies, and are in compliance with NEPA.

Based on the above, we recommend they be approved.

Attachment

The Standards and Guidelines for Wild Horses and Burros developed by the Sierra Front-Northwest Great Basin Resource Advisory Council are hereby approved.

Ron Wenker
State Director, Nevada

August 30, 2007
Date

Standards and Guidelines for Management of Wild Horses and Burros of the Sierra Front-Northwest Great Basin Area

Preamble

It is a policy of the Bureau of Land Management (BLM) to establish Standards and Guidelines to aid in management of public land resources. The following Standards and Guidelines are developed by the Resource Advisory Council (RAC) to guide management of wild horses and burros found on the public lands within the Sierra Front-Northwest Great Basin Area. These Standards and Guidelines are in effect upon approval by the BLM. The Standards outlined below state the goals to be achieved and the Guidelines provide the methods for attaining the Standards.

The RAC expects the **Wild Horse and Burro Guidelines** included in this document will be incorporated into the 1982 Sonoma-Gerlach and Paradise-Denio Management Framework Plans, the Winnemucca Field Office administered portions of the 2004 Resource Management Plan for Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area and Associated Wilderness, and Other Contiguous Lands in Nevada, and the 2001 Carson City Field Office Consolidated Resource Management Plan developed by Bureau of Land Management (BLM) Carson City and Winnemucca Field Offices, Nevada. These areas include the Sierra Nevada, Malheur High Plateau, Humboldt, Fallon-Lovelock, and Carson Basin major land resource areas as defined by the Natural Resource Conservation Service.

Management of wild horses and burros under the Standards and Guidelines outlined below is to be consistent with the Wild Free-Roaming Horses and Burros Act of 1971, the Federal Land Policy Management Act (FLPMA) of 1976, and the Public Rangeland Improvement Act (PRIA) of 1978, and any subsequent amendments.

Standards and Guidelines for attaining rangeland health by livestock are currently in effect for the Sierra Front-Northwestern Great Basin area and the necessary management actions are being implemented. It is recognized that wild horse and burro habitat needs are very similar to those of livestock. Therefore meeting the livestock needs will also provide healthy wild horse and burro habitat. However, long term maintenance of wild horses and burros is also dependent on achieving reproductively viable herds. Consequently, a new Standard No. 6 is being added to assure the health of individual animals and the maintenance of reproductively viable herds.

Background

Wild horse and burro management practices based on the following Standards and Guidelines will consider both the economic and physical environment and will be consistent with other multiple uses including but not limited to: recreation, minerals, cultural values, wildlife, domestic livestock, areas of critical environmental concern (ACEC's), designated wilderness and wilderness study areas (WSA's), and land acquisition and disposition activities.

With approval of these Standards for wild horses and burros maintaining animal health and population viability will focus primarily on controlling population size and herd composition within the Appropriate Management Level (AML) of the Herd Management Areas (HMA) as established in Sierra Front-Northwestern Great Basin planning decisions. The Guidelines outlined below are designed to achieve the existing Rangeland Health Standards for the Sierra Front-Northwestern Great Basin as well as the proposed Wild horse and Burro Standards.

Existing Rangeland Health Standards for Wild Horse and Burro Management:

The five (5) Standards outlined below are included in the approved **Standards and Guidelines for Rangeland Health in the Nevada's Sierra Front-Northwestern Great Basin Area** and are adopted as Standards for wild horses and burros.

STANDARD 1. SOILS:
Soil processes will be appropriate to soil types, climate and land form. As indicated by:

- Surface litter is appropriate to the potential for the site;
- Soil crusting formations in shrub interspaces, and soil compaction are minimal or not in evidence allowing for appropriate infiltration of water;
- Hydrologic cycle, nutrient cycle, and energy flow are adequate for the vegetative communities;
- Plant communities are diverse and vigorous, and there is evidence of recruitment; and
- Basal and canopy cover (vegetative) is appropriate for the site's potential.

STANDARD 2. RIPARIAN/WETLANDS:
Riparian/Wetlands systems are in properly functioning condition. As indicated by:

- Sinuosity, width/depth ration, and gradient are adequate to dissipate stream flow without excessive erosion or deposition;
- Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion; and
- Plant species diversity is appropriate for riparian-wetland systems.

STANDARD 3. WATER QUALITY:
Water quality criteria in Nevada State Law shall be achieved or maintained. As indicated by:

- Chemical constituents do not exceed the water quality Standards;
- Physical constituents do not exceed the water quality Standards;
- Biological constituents do not exceed the water quality Standards; and
- The water quality of all water bodies, including ground water located on or influenced by BLM lands will meet or exceed the applicable Nevada water quality Standards. Water quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law, and as found in the Section 303(c) of the Clean Water Act.

STANDARD 4. PLANT AND ANIMAL HABITAT:
Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse. As indicated by:

- Good representation of life forms and numbers of species;
- Good diversity of height, size, and distribution of plants;
- Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and
- Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

STANDARD 5. SPECIAL STATUS SPECIES HABITAT:
Habitat conditions meet the life cycle requirement of special status species. As indicated by:

- Habitat areas are large enough to support viable populations of special status species;
- Special status plant and animal numbers and ages appear to ensure stable populations;
- Good diversity of height, size, and distribution of plants;
- Number of wood stalks, seed stalks, and seed production adequate for stand maintenance; and
- Vegetative mosaic, vegetative corridors for wildlife, and minimal habitat fragmentation.

STANDARD 6. SELF-SUSTAINING POPULATIONS OF HEALTHY WILD HORSES AND BURROS:
Wild horse and burro populations are healthy and self-sustaining (reproductively viable). As indicated by:

- Herd size, age structure, and sex ratios appropriate for maintaining reproductively viable herds.
- Herds display no significant deleterious genetic conditions.
- Herd Management Areas provide adequate food, water, and living space for long term maintenance of healthy wild horses and burros.
- Adult animals have sufficient Henneke body condition class to withstand short term (3-4 months) forage loss due to adverse winter conditions or other habitat destruction.

GUIDELINES FOR WILD HORSES AND BURROS:

It is the BLM's policy to manage wild horses and burros in a manner which will achieve self sustaining populations of healthy animals, in a thriving natural ecological balance, in a sustainable multiple use relationship with other public land uses. The following Guidelines are intended to be consistent with this BLM policy and to meet the Standards for the Sierra Front-Northwestern Great Basin area.

1. To maintain their free-roaming nature, fencing and management activities within HMA's will be at the minimum feasible level needed to meet the Standards outlined above.

2. Set AML upper and lower levels so that population adjustments are employed as infrequently as practical to meet objectives of resource plans and applicable Standards, and to promote efficient management.

3. Set wild horse and burro AML's at a level that allows maintenance of Rangeland Health Standards. When monitoring indicates these Standards are not being met, excess animals should be removed, AML's adjusted or other appropriate management actions taken.

4. Set AML's at a level that will allow forage plants to complete their life cycle and maintain healthy habitat. Utilization of forage species, which are primarily grasses, should be maintained at a level that will allow these plants to produce seed and new plants to reach

maturity. Monitoring should be conducted to determine the amount of utilization and associated resource impacts attributable to each forage user. Adjustments in management of the causal species should be made in proportion to their impacts.

5. Adjust population levels when (1) resource evaluation indicates that excess wild horse and/or burros are a significant cause for failure to meet habitat Standards; or (2) where an adjustment is needed to meet Standards for protecting the health of the herd or individual animals. Under these circumstances, excess animals should be removed before the next growing season.

6. When monitoring shows unsustainable damage to Special Status Species or their habitat, the access of wild horses and burros should be limited or the animals should be removed.

7. Remove wild horses and burros as needed to allow plant species to be re-established following fire or other significant damage. Reintroduction should not occur until monitoring shows that forage plants can withstand grazing.

8. Motor vehicle racing, air racing, or other intrusive activities which could result in harassment of wild horses and burros will not be permitted in Herd Management Areas unless impacts are determined to be minimal.

9. Wild horses and burros removed for short periods should be returned to their herd area whenever feasible.

10. Maintain reproductively viable wild horse and burro populations by setting herd size, age structure, and sex ratios that are consistent with management of healthy, self-sustaining populations.

11. Procedures for maintaining a reproductively viable population may include periodic animal removals, reduction of reproduction through contraception, adjustment of age structure, introduction of animals from other herds, and modification of sex ratios.

12. Protect wild horses and burros from deleterious genetic changes by maintaining sufficient number of breeding animals in each herd. Animals with obvious genetic problems should be removed from the herd.

13. Consider the adoptability of wild horses and burros in managing the herds. However, adoptability should not be a primary reason for modifying the characteristics of wild horse and burro populations or for determining which animals are to be removed.

14. All wild horses and burros found living year around outside of HMA should be removed.

15. Remove all wild horses and burros when the herd is not viable or there is insufficient water or habitat.

Implementation

Following adoption of the Standards and Guidelines for Wild Horses and Burros, subsequent planning decisions and management actions must be consistent with the Standards and Guidelines. Standards and Guidelines for Wild Horses and Burros as outlined above will be implemented through a multi-step process involving:

1. Development of herd management area plans and establishment of long-term objectives for managing wild horses and burros and their habitat; initiation of the necessary management actions; monitoring to assess progress toward achievement of plan objectives; periodic adjustments of population levels to maintain AMLs; and periodic evaluation of management actions to assure they are being implemented and effective in achieving plan objectives.

2. Herd management area plans (HMAPs) will be the vehicle for determining the management and objectives for the herds and their habitat. Assessments of wild horse and burro herds and individual animals will occur through periodic censuses of the animals as well as notation of the condition, age, and sex of animals that have been captured. Monitoring and evaluation of habitat will be conducted largely through the livestock management monitoring and evaluation process with supplemental monitoring when needed for specific habitat requirements unique to wild horses and burros.

3. When evaluation of resource monitoring data indicates that failure to meet Standards is being caused by excess wild horses and burros, short term adjustments in population levels, changes in AML's, or other appropriate management actions should be taken.

4. Guidelines may be revised, as needed, based upon new data, research, case law or other factors.

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